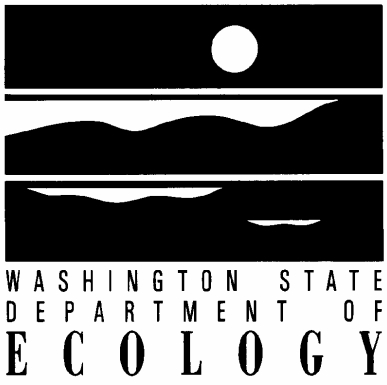


Washington State Hazardous Waste Plan

January 1992
Publication #92-05

For a Copy of this plan, please contact

Department of Ecology
Publications
P.O. Box 47600
Olympia, WA 98504-7600

Please be sure to include your street address for UPS delivery

Washington State

Hazardous Waste Plan

Prepared by the Washington State Department of Ecology
Solid and Hazardous Waste Program

January 1992

Printed on Recycled Paper

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Mail Stop PV-11 ● Olympia, Washington 98504-8711 ● (206) 4596000

January 15, 1992

Dear Interested Persons:

I am pleased to present to you the Hazardous Waste Plan for the State of Washington. This Plan is the result of a comprehensive two-year effort to identify and examine the problems related to how hazardous waste is currently being managed. Recommendations to address those problems were then developed as the final step in this planning effort. While the bulk of these recommendations are to be implemented by the Department of Ecology, local government, private industry, the U.S. Environmental Protection Agency and citizens of the state will also share in its implementation.

It will be a challenge to implement these recommendations over the course of the next six years, and the Department of Ecology is committed to carrying out its part, to the extent possible. The overall Plan will be in effect until 1997, however the Plan's progress will be reviewed every two years.

The Plan was developed through a combined effort of the State Solid Waste Advisory Subcommittee on Hazardous Waste Planning, an extensive public involvement process, and Department of Ecology staff. The Subcommittee played a leading role. in representing their constituencies and forming the recommendations contained within the Plan. I would like to personally thank them for .their extraordinary time commitment and invaluable advice and consultation in the development of this Plan.

Sincerely,

Christine Gregoire
Director

Table of Contents

ACKNOWLEDGEMENTS

The Washington State Department of Ecology (Ecology) extends its sincere appreciation to the Subcommittee on Hazardous Waste Planning. As a subcommittee of the State Solid Waste Advisory Committee (SWAG) these volunteers met with and advised Ecology in a very technical planning process that took over two years to complete. The twenty meetings and untold hours of preparation time by the Subcommittee have resulted in a State Hazardous Waste Plan that will guide the State of Washington's hazardous waste management policy for years to come.

SWAC Subcommittee on Hazardous Waste Planning

Betty Tabbutt, *(Chair)*	Washington Environmental Council
Michael Keller, (V*ice Chair)*	Chemical Processors, Inc.
Harold Clinesmith	Agriculture; Benge, WA
Matt Cohen	Heller Ehrman, White & McAuliffe
Tim Douglas	Mayor of Bellingham; Cities' Representative
Tom Eaton	Department of Ecology
Michael Gearheard	Environmental Protection Agency
Peter Hedegard	Janco United; Small Business Representative
Chuck Kleeberg	Seattle/King County Public Health
Harold Mathews	Franklin Co. Commiss.; County Representative
Jeffrey Morris	Washington Toxics Coalition
Harry Reinert	Staff, House Environ. Affairs Committee
Bill Ross	Ross & Associates
Barbara Thompson	The Boeing Co.
Sally van Niel	Everett Community College
Gary Wilburn	Staff, Senate Environ. & Natural Resources
Mike Williams	Hazardous Waste Education and Action League; Ellensburg, WA

Ecology would also like to acknowledge the excellent work of our technical consultant ICF Technology, Incorporated and the public participation consultant R. W. Beck & Associates.

The State Plan's project leader, Susan Ridgley, project coordinator, Miles Kuntz and Section Supervisor, Tom Cook also wish to thank the many Ecology employees throughout the Department for their contributions to the State Plan.

A big "thank you" to all the staff from the Solid and Hazardous Waste Program and the Waste Reduction, Recycling and Litter Control Program. A special thanks to:

Mary Harrington	Waste Reduction, Recycling and Litter Control
Hugh O'Neill	Solid and Hazardous Waste Program
Vickie Van Ness	Solid and Hazardous Waste Program

INTRODUCTION

Purpose of the Plan

The Washington State Hazardous Waste Plan was developed to examine the issues related to the management of hazardous waste. Such issues are not confined by local, state or even national boundaries however, this plan focuses on issues internal to the state of Washington.

The State Plan is intended to be a guide for legislators, the Department of Ecology, local governments, generators, citizens and educators with regard to hazardous waste management issues and decision-making at all levels. By doing a minor update of the State Plan every two years, and a major re-examination of the issues every six years, the State Plan is also intended to be a tool that is kept current, enabling implementation in the long-term.

In this document the term hazardous waste refers to regulated hazardous waste (also called "dangerous waste") and does not include radioactive waste or moderate risk waste such as household hazardous waste. See Appendix A for a more detailed description of what makes a waste hazardous and when a generator of hazardous waste is regulated by law.

Legislative Mandate for the State Plan

In 1985 the state Legislature amended the Hazardous Waste Management Act (Chapter 70.105 RCW) to, among other things, include a requirement that the Washington State Department of Ecology (Ecology) develop a State Hazardous Waste Plan. This legislation also directed Ecology to develop siting regulations for hazardous waste management facilities before preparing the State Plan. Early in 1988 siting regulations were adopted, but subsequently those siting regulations were repealed. (New siting regulations have since been adopted.) The development process for the State Plan was not begun until November 1988 due to delays related to the development of the siting regulations.

History of State Planning Activities

Ecology adopted a phased approach to the planning process. Briefly, Phase One satisfied the legislative mandate for a State Plan. Phase Two involved decision-making for a plan with a broader scope. Phase Three, the final phase, consisted of conducting research and developing recommendations for a comprehensive State Plan.

Initiated in November 1988, Phase One of the planning process was completed in March 1990, with the publication and distribution of Hazardous Waste in Washington: A Planning Report. The Planning Report fulfilled the required elements of the legislation for a state plan as outlined in RCW 70.105.200:

.

- An assessment of statewide capacity to manage hazardous wastes.
- A forecast of future hazardous waste generation.
- A description of the Priority Waste Management Study.
- Siting criteria and policies for hazardous waste management facilities.
- A public education plan.

Ecology began the planning process for a comprehensive State Hazardous Waste Plan by developing an overall goal:

> ***To develop recommendations and implementation strategies to provide vision and guidance to all participants in the hazardous waste management system, so that future management of hazardous waste will protect human health, safety and the environment and prevent costly and unnecessary cleanup actions***

The goal would be achieved through the following process:

- Describing and specifying the most important current and potential problems, needs and issues in the hazardous waste management system.
- Examining various alternatives and options for resolving each of the problems and issues.
- Assessing the potential environmental impact from the various alternatives.
- Developing recommendations for programs, policies or actions needed to most effectively resolve the problem, needs and issues.

Work began in mid-1989 on Phase Two of the planning process, concurrent with preparation of the Planning Report. Phase Two consisted of a comprehensive evaluation of the entire hazardous waste management system through the identification of problems in the system. Issues to be addressed in the comprehensive State Plan were identified by surveys of hazardous waste generators, transporters,. management facility operators, regulators and the general public. The scoping process for the State Plan was a year-long effort that also included public workshops to gather input from interested citizens on what the comprehensive

state plan should encompass. These public workshops on the scoping of the State Plan were conducted on October 17-19, 1989, in Spokane, Moses Lake and Seattle, respectively.

In November 1989, Phase Two of the planning process was completed when the scope of work for the State Plan was finalized. It was decided that the Plan would address six questions considered to be essential in evaluating Washington's hazardous waste management system. These six questions are the framework for Phase Three of the planning process - the comprehensive State Hazardous Waste Plan. Each of the six questions was dealt with in a sequential manner, using research and studies to enlighten policy decisions and develop recommendations for action. The six questions are:

(1) **How could the hazardous waste management priorities be maximized?** That is, how can we promote the management of hazardous waste in the higher priority management methods such as waste reduction and recycling and away from lower priority management methods such as stabilization and landfilling?

(2) **Does Washington need additional hazardous waste management facilities, either now or within the next 5 - 10 years?** Do future projections of waste generation and waste, management capacity indicate a need for capacity and if so, what types of capacity?

(3) **Is the regulatory system working**? What improvements to the existing regulatory system would enable that system to function more effectively?

(4) **Will the siting, permitting and citizen/proponent negotiation processes enable the development of needed hazardous waste management facilities?** Are there possible refinements to these processes?

(5) Are we collecting the right type and quantity of information to enable useful evaluation of the system? Information about waste generation and capacity to manage wastes is currently collected, but is it enough to accurately project future generation trends, capacity needs or to evaluate the effectiveness of programs such as Pollution Prevention Planning?

(6) How should we be educating our citizens, generators, TSD operators and others about hazardous waste? What should be the emphasis for education efforts on hazardous waste and who should be providing that education?

Decision-Making Process

As directed by the legislation, Ecology began the planning process by seeking the participation of the public, local government, environmental groups, business and industry. This was accomplished by several means. First, Ecology organized a subcommittee of the

State Solid Waste Advisory Committee (SWAC) to represent all viewpoints of the public and to provide advice and guidance to Solid and Hazardous Waste Program staff in the plan development process (see Acknowledgements for a complete listing of the members SWAC Subcommittee on Hazardous Waste Planning). Second, two series of workshops were held across the state, one series in October 1989 as described above, and the other later in the plan development process to hear public input on a draft of the findings and recommendations for action in the State Plan. Below is a schedule of the second series of public workshops:

May 21, 1991	Spokane	May 29, 1991	Bellingham
May 22, 1991	Moses Lake	May 31, 1991	Seattle
May 23, 1991	Pasco	June 3, 1991	Olympia

Finally, public involvement was encouraged and maintained throughout the entire process with the aid of a newsletter called *The Monitor.* Dedicated to keeping interested citizens informed, *The Monitor* also provided an opportunity for ongoing public review and comment ', during the development of the State Plan. Written comments from public review of the draft plan were also used by Ecology to finalize the State Plan.

The SWAC Subcommittee on Hazardous Waste Planning met for the first of its twenty meetings in June 1989, and agreed upon some basic but important ground rules and
responsibilities:

(1) Committee members had the responsibility to represent and articulate the interests of all groups they represented.

(2) Committee members were to assure to the greatest degree possible that all interests and issues were identified and that all relevant policy options were considered.

(3) Each member was to evaluate and compare options from the public policy perspective.

(4) The Subcommittee was to seek consensus whenever possible. The recommendations of the Subcommittee were to be made by consensus rather than majority vote.

(5) All meetings were open to the public. Audience members could express their concerns through committee members.

From the outset, Ecology made a commitment to the Subcommittee: the State Plan would include any consensus recommendations reached by the Subcommittee, and Ecology would implement those recommendations to the extent that it could. At the same time, the Subcommittee recognized that it was created to provide advice and guidance to Ecology, and if a consensus recommendation could not be reached on an issue, Ecology could still benefit

from the consultation of the Subcommittee. Ecology retained the right to include recommendations in the State Plan not endorsed by the Subcommittee, as determined appropriate. This decision-making process is graphically illustrated in Figure 1.

The SWAC Subcommittee on Hazardous Waste Planning was a limited-term body that ceased to exist once the State Plan was developed.

Documents and Reports from the State Planning Process

The culmination of the Subcommittee's effort was the preparation of the Report of the SWAC Subcommittee on Hazardous Waste Planning -- Recommendations for the State Hazardous Waste Plan. Detailing the Subcommittee's consensus recommendations, this Report is the basis of most of the recommendations in the State Plan. The recommendations in the State Plan that were not endorsed by the Subcommittee are differentiated from other recommendations by the following notation:

> This recommendation was developed solely by Ecology. The SWAC Subcommittee chose not to make a recommendation on this subject.

A number of research projects were conducted during development of the State Plan that resulted in several background reports that are available upon request. These axe:

- Report of the SWAC Subcommittee on Hazardous Waste Planning - Described above.

- Do the Right Thing Study - This study was conducted to determine the highest priority, technically feasible management option for selected hazardous waste streams, and to examine the barriers to achieving that management method. This study utilized a unique technical peer review system to assure accuracy.

- Needs Assessment - In order to determine if Washington needs more hazardous waste management facilities now or in the next ten years, Ecology conducted a study to assess capacity need. This report describes the methodologies used and presents the results.

- An Evaluation of Atypical Hazardous Wastes - Ecology evaluated several categories of hazardous wastes to determine if the current management practices and regulatory controls for those wastes posed potential risks to human health or the environment. This compilation of papers covered hazardous air emissions, hazardous wastewaters, used oil, agricultural chemical wastes, mining wastes and wastes from non-notifying generators.

Publication of documents other than the Subcommittee Report is not intended to imply Subcommittee endorsement or approval of those documents. The Subcommittee Report is the only document endorsed and approved by that group.

What Happens Next ?

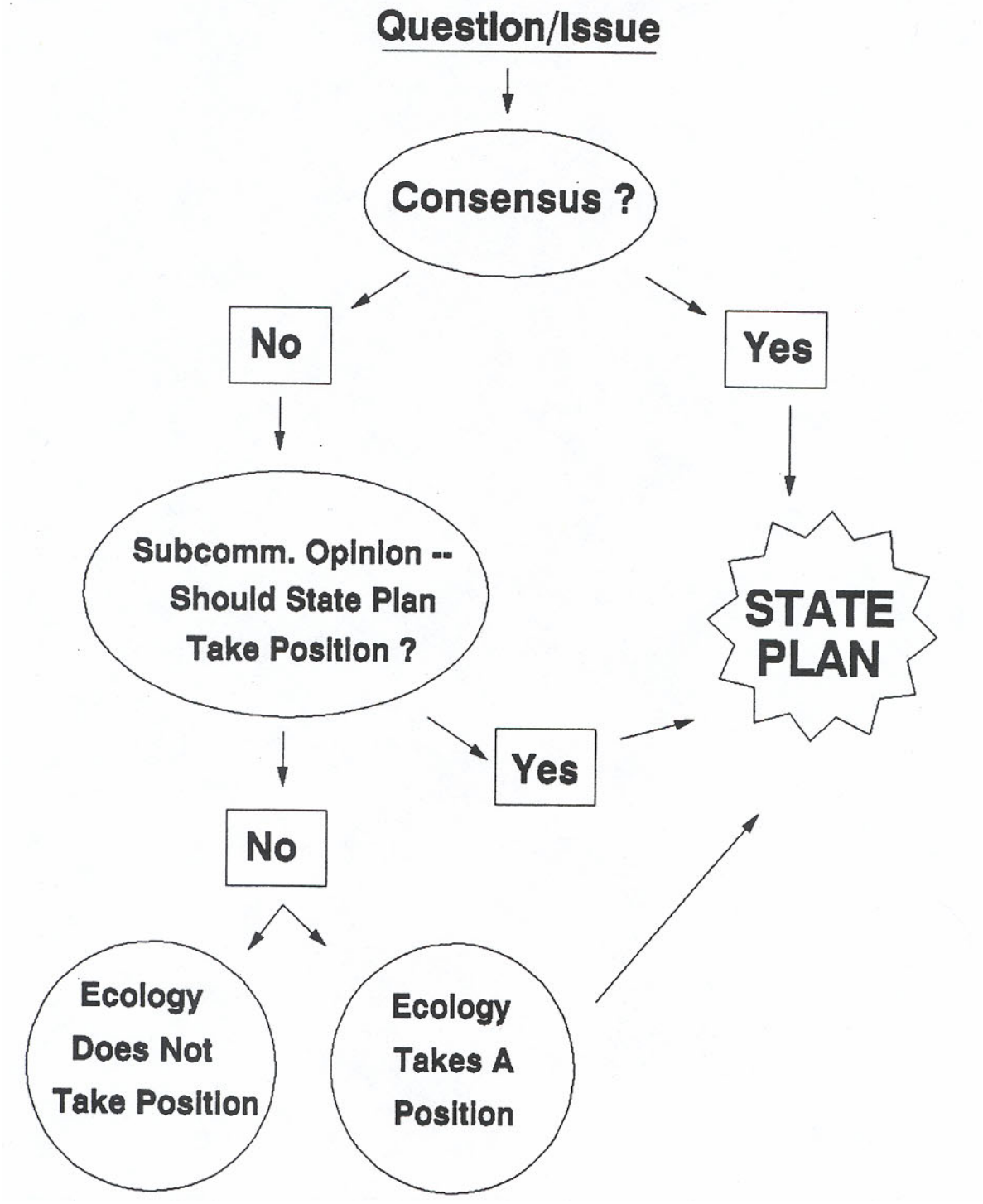
As stated earlier, Ecology is committed to the recommendations in the State Plan, as outlined in the Implementation narrative following each recommendation. Those narratives describe when and how Ecology envisions the implementation of each recommendation. Not all the recommendations, however, are directed at Ecology. Some require action to be taken by the Legislature, EPA, local governments, generators or the public.

The implementation of some of the recommended changes within Ecology have already begun due to the extremely long time period (2 1/2 years) required to develop Washington's first State Hazardous Waste Plan. An example of this is Recommendation 3.12 – Changing the State Dangerous Waste Regulations. Ecology began the regulation reform effort in late 1989, shortly after development of the plan began. Although work on this task is well underway, the reforming effort is included in the State Plan to emphasize its importance and to provide a public statement of Ecology's intentions to pursue this initiative.

To monitor the progress and effectiveness of the State Plan's recommendations, Ecology anticipates providing periodic status reports to the State Solid Waste Advisory Committee, the Legislature and the public. These two-year status .reports may recommend modifications to some of the State Plan's recommendations to reflect policy or other changes that may occur in the overall hazardous waste management picture.

Figure 1

Subcommittee Decision Process



CHAPTER 1

MAXIMIZING THE HAZARDOUS WASTE MANAGEMENT PRIORITIES

Changing Legislative Policy on Hazardous Waste Priorities

1.1 Changing Legislative Policy on Hazardous Waste Priorities

Problem Summary

The Hazardous Waste Management Act (RCW 70.105.150) declared that there is a hierarchy of waste management methods that should be followed. In descending order the hierarchy is: waste reduction; waste recycling; physical, chemical and biological treatment; incineration; solidification; and landfilling. "Waste recycling " is defined as "reusing waste materials and extracting valuable materials from a waste stream. " Under this legislative definition, energy recovery (burning of hazardous waste as fuel) is considered to be a form of recycling.

As the hazardous waste system has become more sophisticated, it has been recognized that some forms of recycling may be more beneficial than others. Materials recovery and reuse -a form of recycling in which the end result is a usable product - is considered by many to be more environmentally desirable than energy recovery, in which only the fuel value of the material is captured.

The concern lies in the fact that the energy recovery process is similar to incineration, which is lower on the hierarchy. If wastes with low fuel value are burned with the sole purpose being disposal, then so-called "sham recycling" has occurred. These low fuel value wastes, which should have been managed at an incinerator, were disposed of in a less expensive and less controlled manner under the guise that recycling was taking place. Burning for fuel is valid energy recovery only when the waste is being used as a reasonable alternative for another fuel (see Recommendation, next page).

Given the importance that the hierarchy has in influencing policy and decision-making, it is worthwhile to assure that it represents the relative environmental benefits of the various management options in the best possible manner. Furthermore, more recent law (the Hazardous Waste Reduction Act, RCW 70.95C.200) affirms this distinction between energy recovery and other forms of recycling by specifically excluding energy recovery from its definition of recycling.

Finally, it is important to recognize that the hierarchy can never accurately capture the subtleties that go into careful, environmentally sound decision-making. In some cases, energy recovery may be preferred to treatment, but the reverse can also be true in other

cases, for example when the treatment results in a non-hazardous residual and no emissions. In general, the hierarchy should be approached as a relative measure of environmental benefit, not as a dogmatic prescription for behavior.

Recommendation

The recommendation is that the Legislature amend the Hazardous Waste Management Act to provide a new category for energy recovery in the hierarchy, so that it would now read as follows: waste reduction; waste recycling; energy recovery; physical, chemical arid biological treatment; incineration; solidification; and landfilling.

The definitions section of the act would also need to be changed, as follows:

(1) Waste recycling - Materials reuse, recovery and reclamation.

(2) Energy recovery - Burning a hazardous waste as an alternative fuel in order to recover heat content of the waste.

Implementation

Removing energy recovery from the definition of waste recycling will align the Hazardous Waste Management Act with the language in House Bill 2390. However, there remains some controversy about whether energy recovery is preferential to treatment, especially in light of the recent Boiler and Industrial Furnace (BM rule.

Ecology will include this recommendation as part of a package for the 1993 legislative session. Ecology will be prepared to present the pros and cons of placing energy recovery ahead of treatment on the waste management hierarchy to the Legislature for debate.

Enhancing Pollution Prevention Planning

1.2 Review of Pollution Prevention Plan –Effectiveness

Problem Summary

The Legislature, in passing the Hazardous Waste Reduction Act (RCW 70.95C in 1990), clearly indicated its belief that the most effective way to maximize the hierarchy is by *having individual generators consider the options and plan for how the best, most feasible options could be implemented. Over the next several years, an important activity for Ecology and affected generators in maximizing the hierarchy will be to implement the Hazardous Waste Reduction Act.*

In order to evaluate the effectiveness o, f the pollution prevention planning tool in achieving changes in waste management methods, Ecology needs to develop a means to monitor both the planning process itself, and whether the planning process is effecting change.

Recommendation

Ecology should conduct regular reviews of the effectiveness of the pollution prevention planning requirement. This review should take the form of two reports to the Legislature, the first submitted two years after plan implementation (1993) and the second report submitted at the four year milestone (1995). Industry and other interested members of the public should be given an opportunity to comment on the conclusions of these reports.

The first milestone report (1993) would. compile information from the Planning Summaries for only those largest generators who were required to report by September of 1992. (These largest generators are those who generated more than 50,000 pounds in 1991.) The report could evaluate:

(1) Compliance with the Planning Requirement - Are the Executive Summaries and Annual Progress Reports being prepared and submitted? Is the content sufficient to obtain Ecology approval?

(2) Impacts of Plans on Waste Generation - What will be the cumulative impact of the planned changes on waste generation, if the plans are implemented as written? What barriers to waste reduction are identified in the plans?

(3) Implications for Action - Are there some immediate actions that Ecology should consider at this time to assist generators in overcoming the identified barriers?

The second milestone report (1995) would include all Planning Summary information submitted by September 1994. This would include anyone who had generated more than 2, 640 pounds annually, and so would capture most of the hazardous waste reporting universe. The report would evaluate:

(1) Compliance with the Planning Requirement, Impact of Plans on Waste Generation and Implications for Action, as described above, for the all affected generators, including the new reporters brought in since 1993.

(2) Planning Success - Are the large quantity generators' plans being implemented, and are measurable reductions or changes occurring? How close have we gotten to meeting the overall 50 % waste reduction goal for 1995?

If it proves too onerous to compile this report for all planning industries, Ecology may choose to focus the milestone report reviews on certain prioritized wastes and/or industries.

Implementation

Ecology's Waste Reduction, Recycling and Litter Control Program will produce these reports in 1993 and 1995, as recommended.

1.3 Certifying Management According to Plan

Problem Summary

While planning is an essential process to achieving the best possible waste management system, it is only useful if the plans themselves are implemented. An additional mechanism may be needed to increase the personal accountability on the part of generators to manage their waste according to their Pollution Prevention Plans.

Current law provides for some financial incentives to develop an approvable plan. An inadequate plan, summary report or progress report will result in the agency's request for modification of the document. If the modification is inadequate, Ecology can assess a hefty penalty and/or issue an order. Actual implementation of these plans is voluntary, however.

Recommendation

The Legislature should amend the Hazardous Waste Reduction Act to require generators to provide a certification that the wastes are being managed in accordance with an approved Pollution Prevention Plan. This requirement should not come into effect until the plan has been approved.

Implementation

The Hazardous Waste Reduction Act, which emphasizes voluntary waste reduction and recycling, was only Passed in 1990. Ecology's initial efforts are focusing on working with industry to develop realistic plans, and monitoring whether these industries will then voluntarily manage their wastes in accordance with their approved Pollution Prevention Plans. It will take several years to evaluate the efficacy of the existing voluntary system. Therefore, Ecology will wait until the 1996 legislative session to put forth this recommendation, and at that time it will be a legislative decision as to whether or not the Act should be amended as recommended.

1. 4 Using the Do the Right Thing Study in Pollution Prevention Planning

Problem Summary

The Do the Right Thing Study was conducted under the auspices of the state planning process in order to enhance the decision-making for Chapter 1 issues. The study examined ten major categories of waste produced in Washington, which were selected because they met certain

criteria of size, widespread distribution, and importance. In separate profiles for each waste category, it examined current management practices and various alternatives, and then selected one or a series of best alternatives for that waste (the "right thing "). The study then examined the technical, economic or human factor barriers to the implementation of the right thing. A unique aspect of this study was the extensive level of organized peer review on the results and conclusions.

The Do the Right Think Study was the basis for most of the recommendations in Chapter 1, after re-working in policy discussions.

Recommendation

The Do the Right Thing Study waste profiles will aid generators of those wastes as they evaluate waste management options. Then, when Pollution Prevention Plan Summaries are reviewed by Ecology, the Do the Right Thing Study will be used as a reference document. The study will also be used as a valuable source of information by Ecology staff as they provide pollution prevention technical assistance to all businesses. The waste profiles will need to be periodically updated as Ecology staff gather further information about the wastes covered in the Do the Right Thing-Study.

Implementation

The Do the Right Thing Study will be finalized and distributed to affected generators in early 1992, and may be used by them when evaluating management options. There will be ongoing implementation of this recommendation by Ecology's Waste Reduction, Recycling and Litter Control Program when reviewing Pollution Prevention Plan Summaries. The study itself will be updated as allowed within budget constraints.

Product Choices

1.5 Private Consumer Choice

Problem Summary

The content of products affects the generation of hazardous waste. If fewer hazardous materials are used in the making of products, less hazardous waste is generated. Increasing the recycled content of products promotes markets for recycled materials. An example of this is the potliner/virgin aluminum/aluminum recycling connection. Large volumes of a hazardous waste, called potliner, are produced during-the processing of virgin aluminum. By purchasing aluminum products, consumers are contributing to the generation of potliner. By purchasing aluminum products with high recycled content, they are minimizing the generation of some wastes.

The preferences of consumers have played an instrumental role in creating hazardous wastes that must be managed. Unfortunately, up until now most consumers were unable to make informed choices concerning which purchases would have the least impact on hazardous waste generation. As household hazardous waste programs have come on-line, some information has been disseminated concerning which consumer products (i. e. paint remover, antifreeze) are hazardous wastes when disposed. This information is valuable and its development and dissemination should be continued.

There has been little or no comparative information on which products result in the production of hazardous waste. Such a task is complicated by the need to accurately represent the full *environmental cost of any particular product. Simply providing information on hazardous waste generation does not take into account the other pollutants in air, water or energy costs that may go into a product. What is needed is a comprehensive measure of environmental soundness, presented in an understandable format, so that the power of consumer choice can be fairly utilized. The* difficulty *and scope of this task is obvious to anyone who's ever shopped in a grocery store: "paper or plastic?"*

Recommendation

Ecology should assist interested parties working on this issue by providing information about the pollutants from various industries and the relative hazards of consumer products.

Implementation

Environmental and public interest organizations have taken the lead in actually developing a system to compare the overall environmental costs from various consumer products. Ecology will respond with available technical information to support this effort, as requested.

1.6 Recycled Content

Problem Summary

While the informed individual consumer can certainly make a difference in reducing waste and increasing the use of recycled products, not all consumers are interested enough to become informed. Further, sometimes the small size of a new market makes competition difficult for the recycled content marketer.

Government, at any level, basically has two options for promoting the use of products made from recycled materials:

(1) It can itself be an informed and powerful consumer through preferential purchasing.

(2) It can use regulatory prescription, by requiring certain products to maintain a minimum recycled content.

The first option has been explored in some recent legislation (Second Substitute Senate Bill 5143), which was passed in 1991. It is designed to "increase the procurement of recycled content products by all local and state governmental agencies and public schools, and provide a model to encourage a comparable commitment by Washington state citizens and businesses in their purchasing practices. " The bill authorizes state agencies to adopt preferential purchasing policies, targets the procurement policies toward products which have particular market development needs, directs General Administration to develop procurement standards, and directs all state agencies to develop strategies to increase their recycled product purchases. Once implemented, this bill could have an invigorating effect on recycled products markets.

Because the federal government, through the Departments of Defense and Energy, has such a strong economic presence in Washington, similar actions at the federal level are needed. A prime example is the development of alternative military specifications to the use of cyanide-plating, as required by the Department of Defense.

Recommendation

Ecology, EPA and the Department of Defense should monitor the implementation of Second Substitute Senate Bill 5143, particularly the development of standards, and its impact on the increased procurement of products recycled or reclaimed from hazardous waste. These agencies should begin a discussion now about what changes to the federal procurement process might assist in the reduction of waste.

Implementation

The Waste Reduction, Recycling and Litter Control Program has the responsibility to reevaluate the effectiveness of this bill. This will occur after sufficient time has elapsed, probably during 1994 - 1995.

Limiting the Cross-Media Transfers of Pollutants

1.7 Cross-Media Inspections

Problem Summary

Our system of environmental controls was designed to protect public health and specific aspects of the environment; for example, air pollution controls protect air quality and hazardous waste regulations prevent dumping on land and in water. Concerns have been raised that this system of regulation inadvertently tends to transfer pollutants from one part of the environment ("media ") to another.

Regulatory agencies find it difficult to track the "cross-media" movement of pollutants, because each individual program has the authority and knowledge to enforce only its own set

of regulations. Consequently, industries are frequently put into the position of making difficult technical and economic tradeoffs between the different regulatory control requirements. They also must spend valuable staff time responding to each individual program's regulatory initiatives, such as separate inspection schedules.

Recommendation

Ecology should conduct a pilot project on cross-media inspections in which programs team up for inspections and enforcement in order to improve communications, efficiency and service. EPA should demonstrate flexibility in reviewing the results of this pilot project for more widespread applicability to the Hazardous Waste Program.

Implementation
This recommendation will be implemented on an ongoing basis, within budget constraints, during the next six years. Ecology's Eastern Regional Office will be spearheading this effort in 1992.

1.8 Cross-Media Ecology Task Force

Problem Summary

Cross-program inspections is only one of a number of ideas that have been put forth as actions that could be taken to limit the cross-media movement of pollutants. Some of these other worthwhile ideas include:

(1) Pollutant Tracking - How do we define, track and measure pollutants? What data gaps need to be filled in order to measure all pollution? The recently completed Pollution Prevention Measurement Project contains many significant conclusions and possible implementation ideas.

(2) Application of the Waste Management Hierarchy - The concept of the waste management hierarchy, especially the idea of source reduction as the preferable control option, has been a powerful policy within waste programs. Other programs, especially the Air and Water Quality Programs may want to examine how this concept could be integrated into their regulatory structure.

(3) Information Sharing - The regulatory actions of other programs can dramatically affect hazardous waste generation, but in many cases these actions occur without the input or even the knowledge of Hazardous Waste Program staff. One idea has been to have both the Solid and Hazardous Waste Program and the Waste Reduction, Recycling and Litter Control Program assign a staff person to provide input and information to other programs, for example by attending air and water rule making and permit hearings.

(4) Cross Media Permits - A final goal may be to have cross-media impacts controlled through a single facility permit, which would provide an integrated system of regulation for *all pollutants at a site.*

Recommendation

Ecology should establish a task force with representatives from various programs (Air, Water, Solid and Hazardous Waste, and Waste Reduction, Recycling and Litter Control) to examine the above-mentioned ideas. The goal of the task force is to identify what statutory, regulatory or programmatic changes may be needed to limit the cross-media transfer of pollutants and to seek opportunities to build pollution prevention into existing programs.

Ecology should recognize the time commitment that will be required of task force members, and should allow for it in program plans and job descriptions.

Implementation

Ecology will create a task force to examine cross-media issues. To take advantage of a current initiative focusing on cross-media inspections (Recommendation 1.8), the task force may not be formed until after the cross-media inspection initiative is completed.

Research Needs

1.9 Research Needs on Waste Management Alternatives

Problem Summary

The Do the Right Thing Study highlighted the fact that technical barriers or lack of sufficient demonstration limit the management of many wastes in the most beneficial manner. Demonstration projects and research on these wastes could help to remove these technical barriers.. The study identified several possible projects:

(1) Research on possible use of emission control dust as soil amendment.

(2) Classification of steel emission control dust.

(3) Reuse of blasting sands to decrease production of aluminum emission control dust.

(4) Alternatives to cyanide plating processes.

(5) Development of water-bearing coatings or dry powder paints which are weather and corrosion resistant.

(6) Development of substitutes for non-chemical and other solvents used in cleaning which meet high purity specifications.

Such research could be conducted by private industry itself, universities or other research institutions. The Pacific Northwest Pollution Prevention Research Center has recently been created to foster pollution prevention, including setting research priorities and supporting or sponsoring research. They are in an excellent position to examine the relative merits of these potential projects.

Recommendation

The Pacific Northwest Pollution Prevention Research Center should review the technical and financial feasibility of the above-mentioned research projects. The Center should develop recommendations to Ecology, the Legislature and EPA on which projects bear further investigation, promotion or funding.

Implementation

Ecology will contact the Pacific Northwest Pollution Prevention Research Center and request their assistance in implementing this recommendation.

Regulatory Controls on Recycling

1.10 Investigate Alternatives to Current Recycling Regulatory System

Problem Summary

Both the regulated community and regulators are frequently perplexed by the way in which recycling is regulated under RCRA and the state Dangerous Waste Regulations. Some aspects of permit regulations work to discourage development of beneficial recycling facilities. On the other hand, non-compliance with basic hazardous waste management standards is not uncommon at recycling facilities, and many of the largest enforcement and cleanup sites in the state have been former recycling facilities. As mentioned in the problem summary of Recommendation 1.1, preventing sham recycling is also a concern. Essentially, the current all-or-nothing regulatory system needs a way to develop a better link between the degree of risk that a particular facility poses and its regulatory controls.

Ecology staff have recognized this problem and, over a year ago, formed a small work group to examine alternatives to the current regulatory system for recycling facilities. While no final recommendations have been developed, some of the tools that have been discussed favorably so far are:

(1) Recycling Review Panel - An internal Ecology group, with the responsibility of assisting staff in making case-by-case determinations on recycling vs. treatment decisions. The use of such a group would provide consistency in decision-making and more efficiently centralize expertise.

(2) Notification - All hazardous waste recyclers, both off-site and on-site, would need to report to Ecology about the types of wastes recycled and details of the recycling process (see also Recommendation 5.2).

(3) Special Recycling Permits - Phase-in over time a new type of permit that would more accurately reflect the level of risk posed at the individual facility. Depending on the complexity of the operation, this could be operational standards in a rule, or something more like a site-specific Part B permit, but with some expedited aspects. This recommendation would likely require new legislation.

(4) R&D Permits - Simplified, temporary permitting procedure for selected research and demonstration (R&D) projects, in order to enable the proponent to demonstrate the existence of a market. A market must be demonstrated to qualify for a special recycling permit.

(5) Recycling Residue Delisting - Those recycling operations which use listed wastes in their processes have a particularly difficult time with the regulatory structure, because of the a'a;,8iculty in "delisting" their product. Ecology should seek to obtain authority from EPA for delisting of recycling residues.

Recommendation

Ecology's recycling work group should produce its recommendations for management's consideration as soon as possible. EPA and the public should be allowed an opportunity to comment on any proposed changes at the appropriate time.

Implementation ,

The recycling work group is expected to produce recommendations by mid-1992. Any recommendations which require changes in the federal RCRA regulations will be communicated to the appropriate Congressional members, so as to be incorporated into the RCRA Reauthorization process.

Technical Assistance

1.11 Technical Assistance

Problem Summary

As a result of the Do the Right Thing Study, it became apparent that there were several wastes where the major barrier to the use of higher priority management method was a lack of information. For those wastes/industries, a concerted technical assistance effort would be beneficial.

During the next two to three years, a high priority task for Ecology will be providing technical assistance on the preparation of Pollution Prevention Plans. It is possible that during the course of conducting planning technical assistance, the same technical assistance needs will be identified that became apparent during the Do The Right Thing Study.

Recommendation

Ecology should continue to provide technical assistance to all generators with the areas of greatest need identified in the Do The Right Thing Stud taken into consideration when determining technical assistance priorities. These areas include:

(1) Working with the electroplating industry to disseminate information and operate demonstration projects on waste reduction alternatives for electroplating wastewaters.

(2) Distributing currently available information concerning use of water-bearing coatings, dry powder paints and dry paint booths to smaller shops.

(3) Targeting programs on waste reduction options for incinerable paints, primarily for small shops.

(4) Developing a more widespread distribution of existing technical information on non-halogenated solvent alternatives, including cost-accounting demonstrations.

Implementation

These technical assistance needs have been seriously considered by the Waste Reduction, Recycling and Litter Control Program in their prioritization effort during 1991, and will continue to play a role in both that program's and the Solid and Hazardous Waste Program's technical assistance efforts during the next six years.

Economic Incentives and Disincentives

1.12 Economic Incentives and Disincentives

Problem Summary

In the past, environmental agencies have not fully explored the extent to which economic signals could be used to promote the hierarchy, even though economic motivators can be an effective means of changing behaviors. These signals fall into two major types:

(1) Economic Incentives - These reduce the 'price" of higher waste management options through grants and price subsidies. Incentives can create markets for preferred products or extend the usable life of products. Two areas that would benefit from such incentives include electroplating waste process retrofitting and application of new technologies, and incinerable paint recycling.

(2) Economic Disincentives - These increase the price of waste disposal through taxes, fees or other financial motivators. The recently-reenacted hazardous waste fee system provides a disincentive for producing Extremely Hazardous Waste by levying a greater fee on these wastes.

To the extent that the regulatory system causes businesses to internalize the environmental costs of waste management, the market works with the regulations to cause the wastes to be managed in a conservative manner.

Recommendation

Ecology should investigate the legal and fiscal feasibility and desirability of the expanded use of economic incentives and disincentives as part of the overall waste management strategy.

Implementation

This recommendation will be implemented during the 1994 - 1995 biennium.

CHAPTER 2

WASHINGTON' S NEED FOR ADDITIONAL HAZARDOUS WASTE MANAGEMENT FACILITIES OVER THE NEXT 5 - 10 YEARS

2.1 "Close to Home" Policy - Overall Approach

Problem Summary

(1) Access to Capacity

The goal in assuring access to hazardous waste management capacity is to have reasonable availability of the entire range of hazardous waste management options for generators, so that testes can be managed in the most environmentally and economically sensible manner.

This is important because the availability of capacity can drive how wastes are managed. Excess disposal capacity (overbuilding) may lower disposal costs and thereby serve as a disincentive to managing wastes at a higher level on the hierarchy. The consequences of insufficient capacity (underbuilding) are not quite as clear. It usually increases disposal/management costs and this, in turn, may either cause more illegal handling or disposal of the wastes, or act as an incentive for more waste reduction, depending on the response of the generator.

Based on the Needs Assessment conducted as a part of this planning process, there are certain types of capacity for which the supply of in-state capacity does not meet current demand from the wastes produced by Washington generators. These types of capacity are:

- *High Temperature Metals Recovery*
- *Incineration - Liquids*
- *Incineration - Sledges and Solids*
- *Energy Recovery*
- *Landfill*

Short-term projections indicate that the demand for such capacity is unlikely to decrease to the point where it becomes insignificant. Therefore, Washington needs continued access to these types of capacity. Currently, access to these types of capacity is being met by slopping wastes out-of-state for management.

(2) Equity Concerns

A closely related issue addresses the geographic distribution of hazardous waste management capacity relative to the distribution of hazardous waste generation, and how to achieve a

reasonable balance between importing and exporting. Washington does not desire to become a magnet for hazardous wastes, i. e. to have unreasonable levels of wastes being imported into this state for management. At the same time, we don't want to put other states into the position of becoming magnets: no one wants to be a "dump" for someone else, even if this "dump" is in some way beneficial, such as burning for energy recovery. This is the balance between importing and exporting.

Given the size of Washington, complete self-sufficiency in all types of hazardous waste management may not be environmentally desirable or economically feasible. Most observers agree that the existence of a competitive national market with free flow of wastes is a positive occurrence, because it tends to result in facilities with better management and perhaps lower prices. For a variety of reasons, the marketplace has resulted in an inequitable geographic distribution of some types of hazardous waste management facilities. For example, because one of the nation's largest commercial hazardous waste landfills is located there, the state of Alabama is a net importer of over 200,000 tons per year.

Concerns about interstate equity have been heightened in the last couple of years as some states, alarmed by the continuation of present patterns of disposal, have taken steps to gain control over the flow of wastes into their state. The goal of the importing states is to provide; a motivation for exporting states to be more self-sufficient and manage more of their own wastes. Until now, these efforts have not been very successful for a variety of reasons. However, there is now an active effort to obtain the necessary Congressional approval to allow importing states to either ban or financially punish egregious exporters. Whether defined as total tons exported, or as percentage of generation exported, Washington is now one of the most significant exporters of hazardous wastes in the nation. Between 55-60%, or about 135,000 tons, of the hazardous waste generated in Washington is exported, primarily to Oregon. In terms of the relative levels of waste generation, Washington ranks fairly low, with only about 0. 2 % of the nation's total volume.

Concerns about the current equity in the flow of hazardous wastes between states must also be put in the context of other wastes. Washington is also a major net exporter of solid wastes, shipping about 450,000 tons per year, which is about 8% of all solid wastes generated in the state. On the other hand, the state is a net importer of commercial low level radioactive wastes, having received about 14,200 tons in 1989 from the other states in the Northwest Low Level Radioactive Waste Compact. According to the compact agreement, this should gradually decrease over time to an annual level of about 2,000 tons imported each year.

The interstate equity issue is echoed at the local level with equivalent concerns about intrastate equity. No local region within the state desires to be a magnet for hazardous wastes, either. Generally there is the perception that the citizens who economically benefit from industrial development should also bear the potential environmental and health burden from the disposal of the wastes from industrial development. Unnecessary transportation of hazardous wastes also puts additional risks on citizens living in the corridor areas.

Recommendation

The basic policy recommendation on the issue of hazardous waste management has been characterized as the "Close to Home" policy. Its goal is self-sufficiency on the part of individual generators and TSDs, the state as a whole, and the Pacific Northwest region. This policy would be implemented within the limits of environmental benefit, economics, and technology.

This proposed policy states that there is an order of preference in where wastes are managed, all other environmental standards and economic factors being equal. This order of preference is as follows:

(1)	Source Reduction:	the waste is never generated.
(2)	On-Site Management:	the waste is managed at the site of generation.
(3)	Local Management:	the waste is managed near the site of generation (a.k.a. the "near-sited" policy).
(4)	In-State Management:	the waste is managed within state borders.
(5)	In-Region Management:	the waste is managed within the Pacific Northwest region.
(6)	Out-of-Region Management:	the. waste is managed outside of the Pacific Northwest region, either within or outside of the U.S.

Basis for Recommendation

Close to Home management is preferred because it acknowledges the need for access to capacity, addresses equity concerns, decreases transportation risks, and limits the shifting of environmental or health risks to communities who don't benefit from the industrial development. This preferred location hierarchy can be overlapped onto the existing hierarchy of waste management methods to arrive at the most desirable management means.

Source reduction remains the preferred management method under both the Close to Home hierarchy and the waste management hierarchy. The recommendations, described in Chapter 1 of this report, many of which are designed to promote source reduction, are applicable here as well. Other ongoing initiatives, such as pollution prevention planning by majors generators, will also promote source reduction.

While fairly low on the Close to Home hierarchy, it must be acknowledged that management of wastes "away from home" (e.g. at off-site commercial facilities) can also have benefits in certain situations. It typically results in the management of wastes at fewer sites, which is

much easier to continuously monitor to prevent contamination. It also enables generators to control their liability by having wastes managed at a single site, under professional management. Finally, many specialized recycling and treatment technologies need a certain volume of wastes and so are most appropriately utilized at the larger commercial scale.

The enforcement of the Close to Home hierarchy is limited by existing law. This limitation makes the Close to Home hierarchy similar to the waste management hierarchy, in that state law encourages that waste management follow the hierarchy, but does not mandate that wastes must be managed according to this preferred hierarchy. Likewise, the U.S. Constitution significantly restricts state or local government from actually controlling the flow or eventual location of waste, as is urged by the Close to Home hierarchy.

The remainder of the recommendations in Chapter 2 address how the Close to Home policy could be implemented.

Implementation

This new policy will be presented as the philosophical background for the other legislative proposals during the 1993 legislative session. It is implemented through the remaining recommendations in this Chapter (2.2 through 2.7).

2.2 Impact of State-Only Wastes

Problem Summary

Washington's unique system of designating wastes is a factor in increasing the demand for capacity. On average, about half of the recurrent and one-time-only wastes generated each year are hazardous solely because of state designation. Thus, Washington has effectively doubled its capacity need by deciding to adopt a more stringent waste designation system. In the past, the effect on capacity demand was usually not considered during analysis of the impact of new or proposed regulations.

Recommendation

Prior to listing new wastes, Ecology should conduct an analysis of the impact of these regulations on the volume of waste to be generated and the capacity to handle these new wastes.

Implementation

Ecology will implement this recommendation in two ways: 1) By considering access to capacity as one factor in deciding whether or not to expand the regulatory universe; and 2) By preparing estimates of the impacts of these proposed regulations on the volume of waste to be generated, to be taken into account during Capacity Assurance Planning.

2.3 On-Site or Local Management

Problem Summary

See discussion under 2.1

Recommendation

The management of wastes on-site should be more actively promoted, to the extent this is environmentally desirable and economically feasible. If other environmental factors are equal, on-site or local management is preferred because it minimizes transportation risks, limits the transfer of risk to other communities, and results in the application of appropriate, waste-specific technologies. On-site management of waste could be promoted through:

(1) Close examination of the draft Remedial Investigations and Feasibility Studies, Records of Decision and Cleanup Action Plans for both state and federal cleanup sites by staff within the Toxics Cleanup Program, to assure that justifiable circumstances exist to prevent the management of these wastes onsite.

(2) Support for environmentally sound on-site waste management practices that do not require hazardous waste permitting, such as careful waste segregation, closed-loop recycling, and wastewater pretreatment processes.

(3) To the extent possible, designing a hazardous waste permitting system that builds in a preference for the on-site or local management of wastes, such as through expedited permitting or decreased permit fees, to enable new facilities to be more easily developed. An example of this might be an on-site or captive petroleum waste incinerator for use by Washington petroleum refiners.

Implementation

(1) The Model Toxics Control Act (MTCA) contains a hierarchy for the selection of a remedy, modeled on the waste management hierarchy. This will be augmented through Toxics Cleanup Program staff training by the Solid and Hazardous Waste Program on the hierarchy contained in the Close to Home policy.

(2) The Toxics Cleanup Program will take the lead in developing a means to track and predict the proposed off-site shipment of wastes resulting from MTCA cleanups, and to scrutinize the selection of off-site remedies in accordance with MTCA.

(3) Both the Solid and Hazardous Waste Program and the Waste Reduction, Recycling and Litter Control Program provide ongoing technical assistance in the areas of waste segregation, closed loop recycling and pretreatment.

(4) In developing the legislation proposed in Recommendation 3.15, Ecology will work to develop a system with decreased fees for on-site permits. In addition, Recommendations *3.16, 3.17* and *3.18* all contain suggestions for ways in which the permit process may be simplified and, when implemented, Recommendation 3.16 in particular should expedite permit application review for on-site facilities.

2.4 In-State Management - Sizing Based on Need

Problem Summary

See discussion under 2.1

Recommendation

The Legislature should grant Ecology new authority to limit the size of commercial incineration and land disposal facilities based on the need for those facilities. A facility-specific needs assessment, to be conducted by Ecology, would be based on the demand from generators within the Pacific Northwest region. The needs assessment would be revised every five or six years, and the permitted capacity of the facility increased or decreased to meet the changing market need.

If a facility was demonstrated to be needed, and its design met all the regulatory standards for location and environmental controls, the facility would be permitted.

One factor to take into consideration in conducting this needs assessment is that the waste management system is currently in a state of dynamic change, with forces such as pollution prevention planning, the effects of changing lifestyles on waste generation, increasing costs of disposal, the land disposal restrictions and new air and toxics regulations all having yet-unknown effects on waste generation and demand. The needs assessment will likely be developed in this atmosphere of uncertainty. It should attempt to responsibly account for these factors to the extent possible - in particular, market feasibility and new waste reduction opportunities as reported in Pollution Prevention Plans.

There is one exception to the Close to Home policy as it applies to needs assessments and the sizing of iii-state facilities. When conducting the needs assessment, if it is reasonably clear that there is only a short-term need for capacity and there is adequate and reliable out-of-state capacity, then reliance on that out-of-state capacity is an acceptable alternative.

Some reasonable time limit should be set within which the needs assessment would be completed and a decision made regarding the need for a proposed facility. Also, adequate funds for completing the needs assessment should be obtained through the permit application fee proposed in Recommendation *3.15* and specified in the legislation. The public should have an opportunity to comment on the eventual scope and design of the needs assessment.

Implementation

This recommendation will be used as the basis for the development of a bill, to be presented 'to the Legislature by Ecology during the 1993 legislative session.

2.5 In-State Management - State Control of Facility Development

Problem Summary

Current legislative policy puts the primary responsibility on the private market for developing facilities, with government in a passive, technical review role. Increasingly, there are questions as to whether this policy meets the state's interests. These interests include some level of control over the kind of technologies utilized and the wastes imported into the state, and an ability to tailor the facility to meet our own needs. Some are concerned that one unintended result of this policy has been that no major disposal facilities have been sited in the state, leading to an over-reliance on out-of-state facilities for waste management and jeopardizing our need for continued access to capacity.

This confusion about what is the best policy is reflected in different parts of Washington statute, and in comparing these statutes to what is actually occurring. In one section of the Hazardous Waste Management Act (RCW 70.105. 040), the state is charged with developing a land disposal site for extremely hazardous waste (EHW) at the Hanford Reservation. In another section (RCW 70.105.005), the private sector is assigned the responsibility of providing hazardous waste management facilities and services, with the exception of the Hanford EHW disposal site.

Recommendation

The Legislature should reconsider the issues associated with its policy of solely relying on the private market for hazardous waste facility development. The goal of this policy consideration would be to clarify inconsistencies in the current law, and to determine whether a different strategy would better meet the goal of providing for the in-state management of wastes. Ecology may assist the Legislature by developing an options paper which examines the feasibility and desirability of increased state involvement in siting, owning and/or operating hazardous waste facilities which are demonstrated to be needed.

This recommendation is not intended to suggest that current permit applications should be slowed or stopped while this policy consideration is occurring.

Implementation

This recommendation will be used as the basis for the development of a bill, to be presented to the Legislature by Ecology during the 1993 legislative session.

2.6 In-Region Management

Problem Summary

Substantial in-region landfill capacity already exists. This capacity has been utilized by Washington generators for many years and, they may wish to continue to use these facilities for certain wastes for a number of reasons. As mentioned previously, complete self-sufficiency by Washington generators may not be environmentally or economically desirable.

Recommendation '

Management out-of-state but within the Pacific Northwest region remains a viable option in the Close to Home hierarchy. Conducting a needs assessment on a regional basis assures that capacity within the region will be taken into account when permitting any Washington facility. The state should coordinate with the other Pacific Northwest states to assure that the region provides the necessary capacity to manage the wastes generated here, to the extent environmentally and economically feasible and consistent with the waste management hierarchy.

Implementation

Washington has signed a Memorandum of Understanding (MOM with the states of Alaska, Idaho, and Oregon; the province of British Columbia; and the federal Environmental Protection Agency and Environment Canada. In this MOU, we have agreed:

(1) To endorse the concept of the preferred management hierarchy.

(2) To ensure effective communication and coordination among ourselves.

(3) To involve the public in the regional dialogue.

(4) To work together to produce the necessary aggregated data, regular communication, and consistent program and policy development, where appropriate, to ensure the success of a regional approach.

The MOU. specifies how these goals will be achieved. Washington will meet its obligations under this MOU, and thereby implement Recommendation 2.6. In addition, if the legislation in Recommendation 2.4 is passed, needs assessments will take into account the regional supply of hazardous waste capacity.

2.7 Interstate Equity of Waste Management

This recommendation was developed solely by Ecology. The SWAC Subcommittee chose not to make a recommendation on this subject.

Problem Summary

The problems associated with interstate equity are discussed in detail in Recommendation 2.1 section (2). In general, it deals with the issues caused by Washington being a net exporter of hazardous waste. There are concerns with the equity of transferring risks when wastes are shipped out-of-state for management. The importing state receives little economic benefit associated with the generation of the waste, but all of the risk associated with the management of the waste.

Federal law prohibits state interference with the flow of wastes across state lines. Currently, there are a number of proposals being considered by Congress as part of the reauthorization of RCRA which would enable states to control this waste flow, either through the establishment of differential fees or through outright bans of waste in certain situations.

Recommendation

Washington supports the principles of the Interstate Commerce Act as applied to the free flow of waste. The state will continue to participate in the ongoing dialogue with other states in the Western Governors' Association concerning factors which may inappropriately cause the interstate movement of hazardous wastes. This dialogue is not designed to restrict unwarranted interstate movement of waste or to allocate waste capacity within the region.

At the same time, it must be acknowledged that the free flow of waste may sometimes set up inequities in the geographic distribution of facilities. In order to address this problem, Washington supports action by Congress to provide states with the authority to levy differential fees on hazardous waste imports. These fees would compensate the host state for the risk posed by the management or disposal of hazardous waste from other states. Differential fees may result in higher disposal costs, but they may also serve as further motivation for generators to pursue waste reduction and recycling options. In addition, there are some instances of unwarranted shipments of hazardous waste and in those circumstances the use of limited bans may be necessary. The criteria to be used for imposition of selective bans must be carefully developed to ensure fairness and equity.

Implementation

Both the National Governors' Association (NGA) and the Western Governors' Association (WGA) have recently passed resolutions concerning the interstate flow of hazardous waste. Both these resolutions urge Congress to authorize states to levy differential fees for imported

wastes. They also acknowledge the need for limited bans under certain circumstances, and support a waiver of the commerce clause to allow bans of selected shipments. Washington staff are working with other states through the NGA and WGA to develop fair and equitable criteria for enactment of these bans. In addition, Ecology is working directly with Congressional staff on the reauthorization of RCRA to attempt to implement these resolutions.

CHAPTER 3

IMPROVEMENTS TO THE EXISTING REGULATORY SYSTEM

Ecology's Hazardous Waste Program: Setting Priorities and Developing Long-Term Strategy

3.1 Setting Priorities and Developing Long-Term Strategy

Problem Summary

Priority-setting within Ecology's Hazardous Waste Program is an intrinsically difficult process because of the variety of activities competing for program staff time. A clear, well-understood basis for deciding between conflicting priorities within the program does not exist. The decision basis is unclear due to the influence exerted by EPA and Congress through the Resource Conservation and Recovery Act (RCRA) authorization process. (Through this process states are allowed to run the federal hazardous waste program.)

In the past, Ecology had little flexibility in allocating staff resources differently from the EPA-mandated requirements. As state funding has increased, however, EPA's relative contribution to program funding has decreased: just 20 - 25% is now federally funded. Federally mandated priorities exceed the funding level provided. Ecology is allowed limited flexibility in allocating funding for state-only priorities, however, and there continues to be a potential for conflict when priorities dyer.

Planning and priority-setting efforts have tended to focus on activities which are "count-able," such as inspections and permits, and slighted activities which are more difficult to predict or measure, such as education, planning and regulation interpretation.

Additionally, program planning currently occurs on an annual basis, which is too short a time line to assure that appropriate progress is being made for each priority.

Recommendation

Ecology and EPA Region 10 should jointly set priorities for all activities in Washington's Hazardous Waste Program. Such joint priority-setting is needed at the national level as well, and Washington is willing to participate to the extent possible.

To make the best choices among competing priorities, this priority-setting process should account for both environmental risk and impacts to human health, to the maximum extent practical. Ecology and EPA should work together to develop a means to link options and

decisions to an analysis of their relative potential environmental/health risks. This mechanism should also take into account cross-media impacts of actions and decisions.

The priority-setting process should be comprehensive, addressing all three of the major areas of activity for the Hazardous Waste Program:

(1) Prevention: Activities designed to prevent future environmental contamination through regulatory compliance and waste management according to the hierarchy

- Regulation and policy development and interpretation
- Public education and technical assistance for the regulated community
- Waste reduction and recycling initiatives and activities
- Hazardous waste facility permits
- Compliance and enforcement

(2) Remediation: Activities dealing with the cleanup of contamination from past practices at operating hazardous waste facilities

- Cleanup activities under corrective action authority
- Cleanup activities under closure plans and post closure permitting or enforcement authorities

(3) Program management: Activities designed to achieve an efficient and effective hazardous waste program

- Information collection
- Planning
- Hiring and training

The priority-setting process should be mufti-year, with a major update to the State Hazardous Waste Plan every six years and minor updates every two years.

Program planners should assure that this priority-setting process is brought into synch with the planning schedules of Ecology headquarters, the Legislature and especially EPA.

Implementation

During the next two years, the Hazardous Waste Program will work with EPA to develop a joint priority-setting process that incorporates all program elements, acknowledging risk in evaluating competing priorities. This will be based on several existing efforts, such as Environment 2010, EPA's Measurable Objectives plan, and other attempts at long-term priority-setting. After the process has been developed, it will continue to be used and evaluated on an ongoing basis.

Ecology's Hazardous Waste Program: Managing Human Resources

3.2 Compliance Resources

Problem Summary

Existing resource levels do not allow for sufficient numbers of enforcement staff to conduct and follow-up on inspections, in order to provide adequate levels of contact between Ecology and the regulated community. Current workloads resulted in only 7% of the reporting generators being inspected in 1990, not to mention the countless non-reporting generators in operation. Thus, on average, regulated generators are inspected once every 13 years, which is insufficient to achieve across-the-board compliance.

Recommendation

Ecology should develop , and implement a three-step strategy:

(1) Establish generator contact frequency goals for what is considered adequate levels of contact in the regulated community (see Recommendation 3.3).

(2) Over a two year trial period, develop and implement several pilot projects to increase the efficiency of the existing enforcement staff (see Recommendations 3.4 - 3.6).

(3) At the end of the trial period; evaluate progress made in reaching the goals. At that time, Ecology would seek legislative authority to develop new resources in order to achieve these goals.

Implementation

This recommendation is primarily implemented through the State Hazardous Waste Plan itself (Recommendations 3.4, 3.5, and 3.6). The results of this effort will be evaluated in 1993 -1994.

3.3 Generator Contact Frequency

Problem Summary

*Frequent contact with generators and treatment, storage and disposal (TSD) facility operators about their compliance with the law is extremely important in order to achieve statewide compliance. The purpose of such contact is to determine if d facility is in compliance with the regulations and, if not, to move that facility toward achieving compliance: While no current standards exist concerning desired frequency levels, the current once-every-thirteen-*years *average is clearly insufficient.*

Recommendation

Ecology should establish goals for desired contact frequency levels so that most generators and TSDs would be contacted once per year. This would include all those facilities that cumulatively generate 95 % of the total generation of recurrent hazardous waste in the state. The remaining 5 % may also be contacted once per year, if appropriate, based on environmental or public health risk.

Such contact with the regulated community could consist of written or personal communication, and, if personal, could consist of a drop-by visit or a formal EPA inspection.

There should be a mix of announced and unannounced inspections, and Ecology should monitor the relative effectiveness of these two types of inspections. At the end of two years, Ecology should evaluate whether a percentage goal for unannounced inspections is desirable.

Implementation

The inclusion of this policy in the, State Plan constitutes a formal endorsement of the contact frequency goal of one per year for the major waste generators. In order to reach this, however, significant changes are necessary, and these will be conducted through the implementation of Recommendations 3.4, 3.5 and 3.6, and subsequent efforts. Ecology will evaluate the desirability of establishing a ratio for announced/unannounced inspections during the two-year update of the State Plan scheduled for 1994.

3.4 Pilot Project: Point System

Problem Summary

The existing inspection reporting system makes it difficult to compare the compliance status of different facilities because compliance, via inspections, is measured by adherence to the Dangerous Waste Regulations and not to easily measurable standards such as discharge limits. This type of inspection allows for variabilities between inspectors and their reports to become a factor in determining level of compliance, making comparisons between facilities difficult. In turn, this makes it more difficult to prioritize attention during the site inspection, among facilities in the same industry or between industries.

Recommendation

Ecology should develop standardized inspection forms with a grading or numerical point system, based on likely risk to the environment and public health. The goal of this grading or point system would be to achieve the following objectives:

(1) To simplify computerization of inspection reports, in order to provide a consistent database of inspection information.

(2) To assist in prioritizing industries for inspections and education efforts, as well as to determine the length and level of detail required in any particular inspection. For instance, if a particular generator had "scored" consistently high in past inspections, then a less detailed inspection may be appropriate.

(3) To provide an available index for use in measuring and rewarding consistently good individual compliance.

Implementation

his pilot project will be conducted by staff within the Hazardous Waste Program during the 1991 - 1993 biennium.

3.5 Pilot Project: Flexibility in Inspection Content

Problem Summary

F
The process of preparing, conducting and following up on RCRA inspections is extremely
~l time consuming, with one inspector only able to do S - 15 per year. About half of the
inspections that Ecology conducts must meet EPA requirements to conform to standardized, detailed guidelines for procedure and content.

Recommendation
I

Ecology should experiment with simplifying state inspections by allowing the inspector to vary the level of detail or the focus of individual inspections on a case-by-case basis. The level of detail for a particular facility inspection could be based on the inspector's assessment of the environmental or public health risks from prior violations at that facility (the abovementioned point system may also assist in this evaluation). Opportunities for simplification of follow-up actions (i. e. boilerplate warning letters) should also be explored.

Ecology should work to demonstrate to EPA that this simplified system would result in an improvement in Ecology's overall ability to monitor and achieve compliance at generator and TSD sites. EPA should reconsider its requirements based on the results of this experiment.

Implementation

This pilot project will be conducted by staff within the Hazardous Waste Program during the 1991- 1993 biennium.

3.6 Pilot Project: Increased Generator Contact

Problem Summary

In 1988, there were 3,300 notifying generators in Washington, with approximately 1,000 new generators reporting each year. As long as the RCRA inspection is the only form of compliance monitoring between Ecology and the regulated community, and without hiring an army of inspectors, it is unlikely that generators and TSDs will ever receive the goal of an annual compliance contact. There is a "coverage " problem.

Recommendation

Ecology should explore a range of alternatives to inspections for contacting generators and pilot the most promising alternative that meets these goals:

(1) To ensure that generators and TSDs meet their responsibilities for compliance monitoring, including a more complete transfer of the cost of compliance monitoring to the generator or TSD.

(2) To increase the frequency of compliance contact between Ecology and all notifiers, in order to assist in the "coverage" problem.

(3) To improve the efficiency of Ecology's compliance system, by maximizing the ability to focus on on-site visits to generators and TSDs who are unwilling or unable to conduct their own compliance monitoring.

Implementation

This pilot project will be conducted by staff within the Hazardous Waste Program during the 1991 - 1993 biennium.

3.7 Staff Turnover

Problem Summary

Over the last several years, a high turnover rate within the Hazardous Waste Program's permits section, approaching 60% per year, has severely impeded Ecology's progress in processing permits. Little documentation of turnover rates exists for other sectors of the program, but concerns exist that they, too, may be unacceptably high.

Concern has been expressed by some members of the public that there is a "revolving door, with permit staff transferring to positions within industry. This perception does not appear to be accurate for the Hazardous Waste Program, at least over the last several years. The existing conflict of interest laws, RCW 42.18. 221, prohibit a state employee who negotiated or administered contracts with a private business from taking employment with that private

business for one year. Public confidence is, nevertheless, an essential element for a regulatory agency and public perceptions should be considered.

Recommendation

For the permits section, the following actions are recommended to attract and retain quality staff:

(1) Better salaries.

(2) Increased opportunity for flexible work hours.

(3) Clearer delineation of work responsibilities between permits staff and other, allied positions such as inspectors and policy support.

In addition, a study should be conducted to determine if turnover rates within the rest of the Hazardous Waste Program are excessive and develop recommendations, if needed.

Ecology should address the conflict of interest perception by communicating the existing conflict of interest laws to staff during new employee orientation and closely monitor public perceptions in this area.

Implementation

(1) The issue of competitive salaries for highly technical staff is a chronic agency-wide problem that is being addressed by the Personnel Office.

(2) In January 1992, Ecology adopted an innovative policy on flextime.

(3) The delineation of work responsibilities is accomplished through the job description developed by the supervisor and the employee for each position. The agency has begun to place a greater emphasis on the yearly updates of these job descriptions.

In their 1994 - 1995 biennial budget, Ecology's Personnel Office will include a request for funding to conduct a study on staff turnover. Completion of this study will be contingent upon acquiring the funding and resources needed.

3.8 Training

Problem Summary

Ecology's field inspectors and permit writers have indicated that the lack of training opportunities is a major problem in achieving consistency among staff and efficiency of operation. The major training gaps are in basic enforcement skills, the Dangerous Waste

Regulations, and technical permit guidance. Development of training in cooperation with Attorney General's Office staff was also suggested.

Recommendation

Recommend the expansion of the current training opportunities via two additions:

(1) A basic "How to Be an Environmental Regulator" training class which should emphasize an overview of all Ecology's authorities, and teach basic compliance procedures and skills.

(2) A specialized short course on the Dangerous Waste Regulations themselves, with major focus on how they differ from the Resource Conservation and Recovery Act (RCRA), and on the Enforcement Response Guidelines.

Implementation

Ecology's Central Program has, within the past year, developed a very complete "How to be an Environmental Regulator" training class, which they intend to continue offering in the future. Additionally, a short course on Dangerous Waste Regulations has been incorporated as a part of the core training on RCRA offered to Hazardous Waste Program staff. The Hazardous Waste Program will examine the .options to increase the accessibility of the training on the Dangerous Waste Regulations so that it is available to staff from the entire agency.

Improving State/EPA Relationship

3.9 Appropriate Levels of Oversight

Problem Summary

While many of the difficulties in the relationship between the state and EPA arise from the RCRA authorization process itself, the oversight process poses problems as well. Differing expectations exist about the extent of EPA's oversight powers. Ecology wants a clear distinction between EPA's contract or grant oversight responsibilities and its evaluation of the program's equivalence on specific decisions.

Recommendation

EPA should attempt to minimize the scope of its review of individual facility decisions. Instead, it should focus its oversight activities at the program level, such as assuring that program staff are adequate in number and training, and conduct such reviews jointly with the state.

Implementation

EPA will implement this recommendation to the extent possible, on an ongoing basis.

3.10 Revamp the Authorization Process

> This recommendation was developed solely by Ecology. The SWAC Subcommittee chose not to make a recommendation on this subject.

Problem Summary

The authorization process is the lightning rod that focuses all the tensions between EPA and the state about control of and responsibility for implementing the RCRA program. In the past; Washington's relationship with EPA was quite contentious. This has improved significantly in the last several years and is not considered to be a major problem at this time. The recent decision by EPA to transfer authorization authority from headquarters to the region was a very positive step as well.

Nevertheless, the experience of this state and others has revealed some serious flaws in the process itself. EPA has unrealistic expectations about what is achievable, given the level of available resources. In addition, the authorization criteria of consistency, stringency, equivalency and capability are not well defined. EPA frequently takes an "I'll know it when I see it" approach leaving the state trying to second-guess what will be acceptable.

Finally, there is the problem of obtaining full *authorization for the HSWA (Hazardous and Solid Waste Amendments) elements. HSWA, which was passed in 1986, contains a number of significant changes to the hazardous waste regulatory system including corrective action, land disposal restrictions (LDRs), toxicity characteristic leaching procedure (TCZP), and dozens of other clauses. Over the past several years, EPA has developed a series of rules to implement HSWA, but this task is not completed and it will be several more years before all the HSWA regulations are in place and ready for state adoption:*

Due to the complexity of HSWA and the amount of work which is required to maintain authorization for the base RCRA program, most states, including Washington, are not authorized for the HSWA elements, despite the fact that it has been five years since they were passed by Congress. The result is that any hazardous waste permit must be jointly issued by both Ecology and EPA. There is also some impact on the compliance and enforcement program as well.

Recommendation

Washington remains committed to maintaining full authorization for the base RCRA program, and will work with EPA to better define consistency, equivalency and the other criteria. Washington also wants to obtain HSWA authority, including Land Disposal Restrictions, as quickly as possible. It is Ecology's intent to have full authorization for the entire RCRA program by 1995.

EPA should seriously consider the Association of State and Territorial Solid Waste Management Officials (ASTSWMO) recommendation that RCRA authorization become a self-certification process. Under this proposal the state's Attorney General would certify that the state has the necessary regulatory authority to implement RCRA. EPA could review and challenge these decisions if necessary.

Implementation

Ecology and EPA are currently working toward full authorization for Washington as quickly as possible and intend to meet the 1995 deadline. EPA will take the ASTSWMO proposal under general consideration, but at this time is not proposing to make any radical changes to the authorization process.

Changing the Regulations and the Regulatory Process

3.11 Federal Regulation Development Process

Problem Summary

EPA's current regulation development process allows for little direct participation by states during the early stages of regulation development, and therefore many regulations have been promulgated without a clear understanding of potential problems during implementation. While EPA staff have recently been more sensitive to this, the regulation development process doesn't provide any structured way for states to provide input on their concerns.

Recommendation

EPA should implement two procedural policies to improve its current regulation development process:

(1) Prior to adoption of a draft regulation, EPA should conduct an analysis of the impact of these new/revised regulations on the state programs. This should include evaluating the ability of the states to effectively implement and enforce them, their likely impact on the volume of waste generated, their fiscal impact on state programs, and a plan for how fiscal resource problems could be addressed.

(2) As quickly as feasible, EPA should develop and conduct education and training programs for state personnel on the new/revised regulations.

Implementation

This recommendation is similar to one contained in EPA's own RCRA Implementation Plan which EPA will implement to the best of its ability.

3.12 Changing the State Dangerous Waste Regulations

Problem Summary

For years, both the regulated community and Ecology staff have been aware of structural and substantive problems with the Dangerous Waste (DVS regulations. While there are many advantages of the DW regulatory system over RCRA, the existence of two sets of regulations results in unacceptable levels of inconsistency, duplication and complexity.

Recommendation

Ecology's first priority for changing the DW regulations should be to complete the Regulation Reform effort, which has three tiers:

(1) Develop recommendations for substantive changes to the regulations, to revise its scope or stringency.

(2) Develop recommendations for structural changes to improve the format, numbering and location of the regulations.

(3) Develop education and guidance for regulation users.

Implementation

Hazardous Waste Program staff have been working on reforming the regulations for the past year. An external technical advisory committee has provided input and suggestions, and a series of recommendations about substantive and structural changes will be finalized during 1992. Education and guidance continues to be a major work area. During 1992 - 1993, Ecology intends to develop guidance documents on the following subjects: Chemical Test Methods; Closure/Post-Closure Cleanup Policy; a Generator Inspector Checklist; Recycling Guidance; Solvent Wipers; Spill Notification; Used Antifreeze; Chlorofluorocarbon Refrigerants; and Used Oil Status under TCLP.

Measuring Compliance

3.13 Measuring Compliance

Problem Summary

Whether a particular facility is or is not in compliance with the regulations is currently measured by tracking formal enforcement actions = i. e. non-compliance. This in turn, is used by EPA to determine Ecology's performance and accountability in the State/EPA agreement. Because it only measures formal enforcement actions, other compliance related actions, such as follow-up phone calls or education efforts, are not accounted for. Without a means of categorizing the relative severity of the violations, it is difficult to determine if the individual facility is substantially in compliance or not (see Recommendation 3.5 re: Point System). In addition, it isn't possible to judge the extent of compliance statewide at any point in time. Ecology needs a means to determine whether most facilities are/are not substantially in compliance.

Recommendation

Ecology should assign the resources necessary to develop a first-rate system for tracking compliance at the individual facility level, to accommodate both formal and informal enforcement activities. It should also be designed to enable categorization of facilities concerning their general level of compliance. Ecology should work to develop a method to measure statewide compliance, in order to provide a better means to gauge program effectiveness and for workload planning. Such a method should measure not only existing notifiers, but also indicate compliance levels of non-notifiers.

Implementation

This recommendation will be extremely difficult to implement, and Ecology will be working toward this goal continuously for the next six years. The Hazardous Waste Program does intend to put some extra resources toward this task during the 1992 - 1993 biennium.

Maximizing Compliance Action Effectiveness

3.14 Assessment of Economic Benefit

Problem Summary

Penalties for non-compliance are based on potential or actual environmental or human health risks. The economic gain of non-compliance by a violator may be sufficient to more than offset *the penalty, so a financial incentive to not comply may result.*

Recommendation

The economic benefit of non-compliance by the owner/operator should be added to the list of discretionary factors in the Program's Enforcement Policy used in determining the level, of penalty specific to the violation.

Implementation

This factor was recently added to the list of discretionary factors in the Hazardous Waste Program's Enforcement Manual. During 1992, staff will investigate several options, notably some computer software, that will provide a standardized, easier system to account for economic benefit when determining penalties..

Permits and Corrective Action

3.15 Permit Staff Resources and Permit Fees

Problem Summary

Washington, as with many other states, has found the process of issuing final hazardous waste permits extremely resource intensive. Since 1980, fewer than 9 hazardous waste permits have been issued by Ecology.

Presently, about 44 permit applications are pending, including three complex incinerator/landfills, representing a workload of 49 years, for a staff consisting of eight full-time positions.

This workload has been complicated by the high turnover rates, discussed in Recommendation 3.7.

Recommendation

Ecology shall work to develop more streamlined and less resource intensive means to review and issue permits, as specified in Recommendations 3.16 - 3.18.

Ecology should also seek legislative authority to develop a permit review fee designed to recover from the affected facilities costs associated with the processing and implementation of Dangerous Waste TSD permits. This service-based fee would include Ecology's program costs for the following:

- Conducting a facility-specific needs assessment (see Recommendation 2.4)

- Permit application review, permit issuance or denial, and permit modifications

- Corrective action at those facilities where required in the permit
- Closure and post-closure activities

The Legislature should also require that Ecology establish by rule the protocol for deriving that fee. This protocol should attempt to balance the advantages of simplicity with the variety of types of facilities and costs incurred. Ecology should seek appropriate input from affected parties, including applicants, when developing the protocol for this fee.

Implementation

This recommendation will be presented to the Legislature as part of a package implementing several State Plan recommendations, during the 1993 legislative session. The specifics of the proposal will be worked out, with input from affected parties, during 1992.

3.16 Simpler Permits for Simpler Facilities

Problem Summary

Every facility varies tremendously in its complexity, the regulations which pertain to it and the resulting state resources which are required to process its permit application. In general, a site-specific, in-depth review of *facilities is desirable.*

Storage facilities, however, are relatively simple and the conditions at one are very similar to those at another; custom-tailoring permits for such facilities is an unnecessary time expenditure without significant increase in environmental protection.

Similarly, it should not be necessary to develop a completely new permit for each new site of a mobile treatment unit, because the basic technology remains unchanged. Site-specific considerations do need to be accounted for, and public input addressed.

Recommendation

Ecology, in cooperation with EPA, should develop regulations for permit-by-rule standards for on-site storage of wastes in tanks and containers. The rule should accommodate different standards based on types of materials stored and size of facility. It should also detail how any corrective actions will be carried out at those facilities.

Ecology, in cooperation with EPA, should also develop regulations that allow for statewide permits for mobile treatment units, with the necessary opportunity for site-specific amendments and full public input at each site.

Implementation

The Hazardous Waste Program plans to work on the development of these regulations during the 1993 - 1995 biennium.

3.17 Permit Application Guidance

Problem Summary

The existing permit application guidance, which was developed by EPA for a national audience, is extremely general and non-technical. Furthermore, there isn't any detailed, standardized permit application format. Because of this, Ecology often receives permit applications which are completely inadequate for assessing the potential for environmental harm. In some cases, the permit review process can degenerate into a guessing game, where the applicant is not sure what is expected and the agency wastes valuable time and effort continually re-defining what is needed through Notices of Deficiency (NODs).

Recommendation

Ecology should provide better guidance for applicants, including model applications, checklists and a format for submission.

Ecology should also develop and communicate to the applicants a clear policy which spells out:

(1) A process for defining a limit to the NOD cycle by limiting the number of NODS. When applying this policy, Ecology should take into consideration whether deficiencies outlined in the NOD were caused by changing regulations and policies, or other factors beyond the control of the applicant.

(2) At what point in the process the applicant would be required to obtain independent review to certify completeness prior to submission to the agency.

(3) Internal deadlines for certain steps in Ecology's review of permit applications.

Implementation

The ability of Ecology to develop better permit application guidance is highly dependent on the passage of the permit fee legislation proposed in Recommendation 3.15. The current permit processing and review workload would not allow for the staff time necessary to develop any improved guidance. Assuming that the legislation is passed, this effort could begin soon after the funding begins, perhaps by 1994.

(1) The Solid and Hazardous Waste Program has a policy that addresses the issue of recurring NODS for permit applications.

Chapter 3

(2) Independent review of permit applications is currently a voluntary option for applicants. For Ecology to make an independent review mandatory it would be necessary to develop new rules which would require additional staff resources. These additional staff resources would be contingent on passage of the permit fee legislation.

(3) The State/EPA Agreement will now require Ecology to establish facility specific internal deadlines on a yearly basis for permit application review.

3.18 Permit Modification Process

Problem Summary

The existing permit modification process (through which changes can be made to the permit after it is final) is far too cumbersome. Every change, no matter how insignificant, requires the applicant and agency to complete a complex series of steps, including a lengthy public review period. The difficulty of this process inhibits its use, with the concern that permits won't be updated to reflect new information, technology and regulations. There is also concern that this puts unnecessary pressure on the permit writers because the permit would have to be valid for ten years.

In 1986, EPA developed a new permit modification process and it has since been successfully implemented. The process categorizes the different types of modifications by their complexity and magnitude, and prescribes more abbreviated procedures for simple changes. Washington, however, has not yet adopted this process.

Recommendation

There is significant environmental benefit to be gained from simplifying the permit modification process because it enables TSDs to easily incorporate new technical standards and regulations as they are developed. There are also resource efficiency benefits if minor changes can be made without using large amounts of staff time.

Ecology should review and adapt as necessary, EPA's permit modification process in a 'way to allow permits to be selectively modified, conserve staff resources, and maintain environmental protection.

Implementation

The EPA permit modification process has been adopted into the state Dangerous Waste Regulations.

3.19 Corrective Action

Problem Summary

Under HSWA (Hazardous and Solid Waste Amendments of 1986), RCRA permitted facilities are required to evaluate site contamination and clean up the site through "corrective action. " The number of *facilities requiring corrective action is estimated at 100, with continuing investigation into the scope of the cleanup required.*[1] *The responsibility for overseeing these operations falls to the authorized agency, and the resource implications of this responsibility are large - in Washington's case an estimated IS - 20 staff would be needed. While EPA provides some funding for this, it is insufficient, and no new state resources are anticipated. If Ecology were to accept this responsibility, it would mean pulling staff from the current prevention-oriented program.*

EPA Region 10 has proposed a strategy for the next 4 - 5 years. Tile gist of the strategy is that the state would continue to concentrate on the core RCRA prevention program (including the non-corrective action elements of HSWA), and EPA would implement corrective action.

Recommendation

Ecology should develop a strategy for dealing with corrective action at RCRA permitted facilities. The major goals of this strategy would include:

(1) Ecology should obtain corrective action authority as soon as possible.

(2) When possible, corrective actions should be completed prior to the issuance of a permit. Where this would result in an unreasonable delay in issuance of a final permit, a compliance schedule should be made part of the permit.

Ecology requires additional resources to be able to fully implement corrective action without detracting from its current focus on the prevention-oriented program. The source for this funding should be the permit review fees described in Recommendation 3.15.

Implementation

The Northwest Corrective Action Strategy describes the approach that EPA Region 10 and Ecology are taking for addressing the corrective action problem, including describing responsibilities and time lines. It sets 1995 as the goal for Ecology to obtain full authorization for corrective action. Two funding options are being pursued, either the use of the permit review .fees described in Recommendation 3.15, or an adaptation of the cost recovery system used under the Model Toxics Control Act. In either case, the goal is to develop a system consistent with the polluter pays principle.

[1] *Memorandum from Tom Eaton, Department of Ecology, to hazardous Waste Section Supervisors, June 26, 1990*

3.20 Cleanup Authority

This recommendation was developed solely by Ecology. The SWAC Subcommittee chose not to make a recommendation on this subject.

Problem Summary

When Congress mandated the corrective action component of RCRA, it set up a different, yet very similar, site cleanup process as in CERCZA (the Comprehensive Environmental Response, Compensation and Liability Act, also known as Superfund). In Washington, our cleanup law, which is similar to CERCLA, is called MTCA: the Model Toxics Control Act. Under MTCA authority, cleanup standards .have been established, a ranking system has been developed, and hundreds of cleanup projects are being conducted.

There are a number of problems with using separate authorities (both MTCA and RCRA corrective action) when cleaning up sites in the state:

1) *After years of effort, the MTCA process is in place and functioning, and we can be assured of its quality. Expertise about the MTCA standards has been developed, both within Ecology and in the private sector. Ecology is not anxious to redo this training and development work.*

2) *The two systems have different financial standards for responsible parties. MTCA has a better fiscal structure, because it allows for cost recovery from uncooperative PLPs (Potentially Liable Persons), and has a treble-charge provision as an incentive to comply with orders.*

3) *The two systems don't have equivalent regulatory tools. MTCA allows for the use of consent decrees for remedial actions and doesn't require lengthy closure plans. In addition, MTCA orders are not appealable to the Pollution Control Hearings Board, or the courts until after a remedial action ordered by Ecology is completed. All of these factors can result in significant time savings.*

4) *The two systems have different performance standards, public participation requirements, and regulatory requirements, all of which will sometimes conflict. Having two sets of operable standards could result in more bureaucracy without any perceivable environmental benefit. MTCA provides for better public participation, environmental (vs. human health) protection, and permanent solutions.*

Finally, there are approximately ten RCRA sites in Washington where the cleanups are already being conducted using MTCA standards and requirements, including such large sites

as Cascade Pole in Olympia and Atochem (formerly Pennwalt) in Tacoma. This will enable Ecology to develop a track record for using MTCA standards at RCRA sites.

Recommendation

Ecology should propose to EPA that Washington be allowed to use the MTCA administrative process and cleanup standards when cleaning up HSWA corrective action sites. If EPA agrees with the general concept, Washington would develop a strategic plan by mid-1992. The strategic plan would outline the time frame, process, resources, organizational alignment, and activities required to obtain authorization. EPA would comment on and approve this plan. Ecology's goal is to obtain complete authorization for this by fiscal year 1995.

Implementation

Both EPA and Ecology are currently implementing this recommendation. The legal feasibility of this idea is still subject to question, however.

Ecology's Hazardous Waste Program: Improving Legal Services

3.21 Legal Services

Problem Summary

Ecology staff are extremely dependent on the legal support provided by the Attorney General's Office (AGO) as the sole source for official and unofficial opinions, and direction in case negotiations, settlements, and hearings. Unfortunately, AGO staff are chronically overworked, and their expertise is shared with a number of other regulatory programs. This has led to difficulties in three areas:

(1) Obtaining quick access to AGO staff with Dangerous Waste expertise for routine questions and advice.

(2) AGO staff input into case preparation tends to be in the latter stages, resulting in disagreements over the adequacy of the case and control of decision-making.

(3) AGO staff with Dangerous Waste expertise have diminished involvement in regulation development, amendment and interpretation.

Recommendation

The Hazardous Waste Program should increase its ability to obtain access to specialized Dangerous Waste legal advice and assistance from the AGO through:

- Hire a program staff person with legal expertise to provide guidance on regulatory interpretations and regulation writing, case preparation and legal research. This program staff person would not replace AGO staff in their roles of representing the department in court or hearings, or in preparing formal or informal AGO opinions
- Assigning one AGO staff to each regional office and to headquarters as primary contact in responding to questions or research requests
- Program staff involving the AGO staff as early as possible in case preparation and enforcement actions

Implementation

Ecology's Hazardous Waste Program will attempt to gain additional legal staff expertise as budget discretion allows. The program will train staff on appropriate involvement with the AGO and request that the AGO assign staff to regional offices.

Assuring Quality in Laboratory Analysis

3.22 Environmental Laboratory Services

Problem Summary

Inaccurate testing results, whether derived from fraudulent activities or laboratory incompetency, is potentially a serious problem for generators, because accurate analysis is critical for maintaining compliance. Currently, there is no certification program or other system whereby an environmental laboratory's users can be assured that the lab has met gray standards of its ability to conduct the testing per the regulatory requirements.

EPA's Contract Laboratory Program (CLP), which has sometimes been used as a de facto certification program, is not an accreditation or certification program for hazardous waste testing. It is simply a system which is designed to provide a uniform basis for contract analytical work under Superfund (CERCLA) regulations anal to ensure that certain labs meet their contractual obligations to EPA.

Finally, these concerts have been exacerbated with the recent introduction of the TCLP (Toxicity Characteristic Leaching Procedure) testing requirement, which is technically difficult to perform arid expensive. Because the testing results could have major repercussions for the affected businesses, this procedure should be earmarked for special scrutiny.

Recommendation

Ecology should expand its Environmental Laboratory Accreditation Program to include accreditation for solid waste methods as soon as feasible. In the meantime, generators

should preferentially use laboratories which are accredited for water matrix methods which are analogous to the solid matrix methods.

An accreditation program for a facility is not a guarantee of the validity of all of its testing. Generators must become better-educated consumers in order to assure laboratory quality, rather than relying on a surrogate such as the CLP or state accreditation programs. Educational materials ("smart shoppers guide") need to be developed to help generators recognize reliable (and questionable) data.

Implementation

The proposed expansion of the Environmental Laboratory Accreditation program, which would be implemented by the Environment Investigations and Laboratory Services Program, will likely not occur until 1995. Ecology will work with organizations such as the American Chemical Society to produce appropriate educational materials.

Transportation Services

3.23 Quality of Transporters

Problem Summary

Generators are often warned by regulators that they must only deal with transporters who are in complete compliance with the Dangerous Waste and Hazardous Materials Transportation regulations. There is not, however, any reasonably easy way for generators to assess a company's competence and knowledge, other than word-of-mouth. Ecology provides a list of available transporters but does not distinguish between them. The Utilities and Transportation Commission (UT'C) regulates the number of transporters in the marketplace and the rates that they charge, but does not perform quality assurance checks or require special permits.

Recommendation

Ecology in cooperation with the UTC should prepare a brochure for generators to provide needed information about how to evaluate potential transporters prior to contracting with them. In addition, Ecology should work with the UTC and the Department of Transportation to develop more specific regulatory authority for transporters or use liability insurance as a regulatory tool. This may require legislative authority.

Implementation

Implementation of this recommendation by Ecology and the UTC will occur in 1994 or 1995.

CHAPTER 4

A REVIEW OF EFFECTIVENESS OF SITING STANDARDS, CITIZEN/PROPONENT NEGOTIATION AND PERMITTING

4.1 Improvements to the Citizen/Proponent Negotiation Process

Problem Summary

The Hazardous Waste Management Act provides for state preemption of zoning, an area that has traditionally been a local government responsibility. This preemption is in effect only for hazardous waste land treatment, incineration and disposal facilities; local government retained zoning responsibility for hazardous waste treatment and storage facilities.

The Act also provided for local community involvement in mitigating the impacts of the siting of a facility through the Citizen/Proponent Negotiation (CPN) process. CPN is voluntary for the community; if the community chooses to participate, then the proponent must participate in good faith. Items of common agreement resulting from CPN can either be incorporated into the permit (if regulatory in nature) or institutionalized in a separate community- proponent contract.

CPN is still a relatively new process. The first host community for a proposed disposal facility under the CPN process, Adams County, only decided to participate in CPN in January, 1990, and the second host community, Grant County, in June, 1991. The local committee for Adams County and the proponent are still in the early stages of setting ground rules and gathering information. Nevertheless, concerns have been expressed about whether the CPN process, as designed, is workable. These concerns primarily deal with two questions: who judges whether or not either party is negotiating in good faith, and how will this be judged?

Ecology's position has been that the negotiation is between the community and the proponent, and that it is not Ecology's role to judge the negotiation. It appears that CPN does have some shortcomings and although it is relatively new, Ecology considers it to be a very important part of the siting process.

One of the by-products of the development of the siting criteria was a new permit requirement that the proponent must develop an Impact Mitigation Plan that would detail how the host community will be compensated for adverse consequences, including economic impacts. Regulations or guidance on the content of this plan have not been developed, so its outline is still very vague at this point. How should the proponent approach this requirement, and what should the community expect from it?

Recommendation

Ecology should continue to monitor the CPN process and also consider how CPN and the Impact Mitigation Plan could most powerfully work together to address community concerns.

Implementation

This recommendation will be implemented on an ongoing basis.

4.2 Timing of Permit Decisions

Problem Summary

The permit process for new facilities is very slow. It currently takes four to five years, on average, to issue a permit. Of this, about three to four years are spent conducting and reviewing the necessary technical design studies, and one to two years to comply with the public input process. Why is the process so slow? The lack of permit staff resources, the required level of detail in design and the timing of public input opportunities all result in an extremely extended process.

Both facility proponents and potentially affected communities are concerned that neither time nor money be wasted in laying the groundwork for a facility which Ecology, for technical or other reasons, cannot permit. Such a "stopper" may be obvious to Ecology long before the entire five year process has run its course and every technical design detail has been worked out. If this does occur, it may be beneficial for all concerned to have a point earlier in the permit process when Ecology examines whether or not there is a "stopper" on this project.

Timing is also a key issue in the CPN process, with uncertainty about when exactly the "real" negotiations should begin. Technically, the negotiation process begins as soon as the community decides to participate in CPN, but some participants feel that five years is too long a time for negotiation.

Recommendation

Ecology should examine the permit process to see if there is a way to provide an earlier decision on the likely fate of the permit application, prior to the detailed engineering design phase.

Negotiation between the two parties may be more effective if begun after the draft Environmental Impact Statement (EIS) has been issued. By doing so, all the relevant environmental and technical information should be available during the negotiation process. The time prior to issuance of the draft EIS would still profitably be spent by the community and proponent in information-gathering and informal meetings.

Implementation

Ecology and EPA will work together jointly to identify constraints in the federal permitting process which prohibit earlier decisions. This will occur during 1992 - 1993. If constraints can be overcome at the state level, then Ecology will develop a revised permitting program to reach decisions earlier.

Citizen Proponent Negotiation regulations will need to be changed in order to formally change the time line for committee, formation. However, the rules do not specify when actual negotiations must take place, and the timing of that is at the discretion of the parties.

4.3 Monitoring Permit Conditions

Problem Summary

Monitoring compliance at complex treatment and disposal facilities places great demands on Ecology staff and resources. Host communities are concerned about the ability of the Department of Ecology to adequately keep tabs on a remote facility. There are also concerns about the swiftness and severity of enforcement policies;. what would have to happen before the facility is shut down?

Recommendation

Ecology should assure that adequate resources are available to provide quick response and appropriate levels of ongoing performance review for large commercial incinerator and landfill facilities. This recommendation is not intended to preclude the inclusion of monitoring requirements as an item in the CPN negotiation process.

All compliance and monitoring functions, including air and water regulations as well as hazardous waste, should be centralized at these large commercial incinerator and landfill facilities.

Implementation

Ecology will be able to supply, adequate resources to the extent to which sufficient funding becomes available, either through the permit review fees in Recommendation 3.15 or through some other mechanism. The Hazardous Waste Program will work with other programs to assure that compliance and monitoring of facilities is coordinated, and preferably centralized.

> **Note: The Department of Ecology adopted siting standards for hazardous waste management facilities on September 21, 1990, and within one month two law suits were filed opposing those regulations. Due to the legal controversy surrounding the regulations, the State Plan did not examine the siting standards as originally intended.**

CHAPTER 5

COLLECTING THE RIGHT TYPE AND QUANTITY OF INFORMATION TO ENABLE USEFUL EVALUATIONS OF THE REGULATORY SYSTEM

Current Waste Generation and Capacity Information

5.1 Data Quality of Annual Reports

Problem Summary

There is a continuing struggle to maintain a high level of data quality in a data collection system that doesn't particularly motivate the report filer to be accurate and that involves many paper transactions and a complex reporting system. Unlike the tax accounting system, for example, there are no obvious penalties for sloppy reporting or a tiered form system based on the complexity of the operation (i. e. "E-Z" forms). Ecology spends much effort cross-checking the data, and errors still slip through.

The hazardous waste planning fee (WA C 173-305) implemented in 1991, may provide some incentive to accurately report. The annual fee takes into consideration the amount of waste reported by generators in the Annual Dangerous Waste Report, and the fee is higher for extremely hazardous wastes (EHW) than for dangerous wastes (DW). Reporters are motivated to be accurate in total quantity and on the designation of EHW vs. DW, but not necessarily for any other, more detailed information.

Recommendation

Several suggestions have been put forth on how to resolve this problem which bear investigation by Ecology:

(1) Develop an "E-Z" form for simple Annual Report filers.

(2) Pilot the use of electronic reporting submissions, especially by major commercial TSDs or large generators. A secondary advantage of electronic reporting, in addition to the data quality benefits, is that it can result in more "real time" reporting.

(3) More extensive publication of individual facility data would provide an incentive for quality control by the report filer.

Implementation

Although Ecology staff will gather information about these options during the next two years, they will likely not be implemented until 1994 or 1995, given the press of current projects.

5.2 Linking Waste Generation and Waste Management

Problem Summary

Given the manner in which information on waste generation and management is currently collected, it is difficult to display exactly how and where wastes are being managed without substantial manipulation of the data. There are several reasons for this.

Annual reports currently track the waste volumes by shipments, using the manifest reporting system. Each generator can assign a unique number to that manifest, and many companies have designed their own numbering systems. Commercial waste management companies will frequently re-manifest shipments, so that they are using their own tracking system. However, this lack of a uniform numbering of manifests, which should be the link between generation and management, makes it extremely difficult for Ecology to follow the paper trail between generation and how any particular waste eventually is managed. Duplicate numbers, combined with the widespread practice of re-manifesting, causes lots of problems.

Another weakness in the state reporting system is that there is virtually no way to access information about waste management systems and capacity at out-of-state facilities, other than through individual phone calls. Even in-state facilities don't provide all the necessary information about the quantity and type of capacity available through the TSD annual reports.

Recommendation

Three major new initiatives will make it much easier to link waste generation and waste management:

(1) Ecology should investigate using a controlled numbering system to enable the manifest to be better used as a waste tracking tool.

(2) The development of an integrated capacity database to link TSDs' annual reports, the permit status and capacity information. During the development of this data system, Ecology will examine options on the best way to:

- Gather out-of-state capacity and management information (perhaps through the Resource Conservation and Recovery Act Information System?)

- Collect information from in-state facilities about total available (maximum) capacity, the use of hazardous waste capacity by non-hazardous wastes, and the commercial/captive/on-site status of the facility

(3) Better reporting of recycling levels. For example, adding more process codes for recycling and treatment technologies would more accurately reflect the diversity in these management options (currently, there are limited choices in reporting). The development of a better recycling reporting system should also be coordinated with the hazardous waste fees, to make it easier to determine when recycling credits should be applied.

Implementation

Two of these three suggestions are being addressed now. In 1992 and 1993, Ecology proposes to implement a controlled manifest numbering system and to gather better capacity information through the use of a form that was designed by EPA for that purpose. Reporting of recycling levels is an ongoing challenge, and will be taken on as a project later in the six-Year Pig Period.

Forecasting Waste Generation and Management

5.3 Tracking Changes Over Time

Problem Summary

Annual reports were submitted in 1982, but for many years, as the regulations frequently changed and the data collection system came on-line, the quality and breadth of reporting was too uneven to be comparable across years. In general, 1987 is considered to be the first reliable base year. Therefore, with only two years' worth of reliable data (1987 and 1988), the forecasting that was conducted as part of the State Hazardous Waste Plan did not include trends analyses.

Trends analysis can be a useful and reliable analytical tool, and in six years, when the State Plan is revised, it would be valuable to have an ability to conduct trends analyses. In order for this to occur, however, much more uniformity must be obtained in the data. Historical data must be comparable in terms of the scope and range of reporters, and in confidence levels. For example, either no new regulations could be promulgated during the intervening years, or there must be a reliable means to isolate in the data those changes caused by new regulations.

Recommendation

It is difficult to imagine now what questions we will want to answer in six years, and to . design a system to begin collecting that information. Based on our current experience, the recommendations in Chapter 5 are all designed to improve the data. system for future use.

One other recommendation, however, that would assist in the ability to compare different years' data would be to have generators themselves compare their current year's generator annual dangerous waste report to their previous year's report and explain what caused any major changes. Thus, if the change was due to reclassification as the result of a regulation, implementation of waste reduction technology, or a new treatment system, this would be so indicated.

Given that the fifty largest generators have a relatively disproportionate impact on the waste picture, it may be worthwhile to pilot this new explanation requirement with the largest generators.

Implementation

This pilot project is planned for the 1994 - 1995 biennium.

5.4 Future Projections of Waste Volumes and Types

Problem Summary

Only in the last couple of years has Washington, like most other states, attempted to conduct projections of waste generation and the need for waste management. The first attempt was through the Capacity Assurance Plan (CAP), and the second was the recently completed Needs Assessment. In doing the Needs Assessment. Ecology developed solutions for some, but not all, of the technical problems experienced in the CAP. There are several conceptually difficult problems that will need to continue to be addressed as the projection model is refined: cleanup wastes, regulatory changes, and uncertainty. The problem of measuring and projecting waste reduction is addressed later in Recommendation 5.6.

The future volumes of remedial action and corrective action cleanup wastes are extremely difficult to predict for legal and technical reasons. On the other hand, the potentially enormous volumes derived from these actions makes it critical to have a reasonably sure method of predicting their generation. In conducting the Needs Assessment. dozens of interviews with site managers were required to gather basic information about potential waste volumes for just a portion of the state-designated sites.

As past trends demonstrate, regulatory change is a major driver in the generation of "new" wastes impacting the hazardous waste management system. Our ability to quantify the impact of newly promulgated regulations should be improved. On the other hand, forecasting future regulations is so uncertain that too much time and effort is likely not well

spent in this area. Currently, the Toxicity Characteristic rule and the Clean Air Act are the two major regulations which need a reliable means to estimate their potential impact. In the future, there will also likely be other regulations to be addressed on a case-by-case basis. A prime example of a potential new regulatory change with significant ramifications would be the listing of used oil.

Surveys of generators indicate that the cost of waste management is a primary concern, and it undoubtedly is a major driver for most generators regarding the management option selected. Put in its simplest form, when recycling a waste becomes less expensive than –land disposal, then the need for recycling capacity will increase relative to the need for disposal capacity. The Needs Assessment did not attempt to take into consideration in its projections what changes in management might occur if the costs were to change.

Finally, a basic problem with any future projection is that there is always some degree of uncertainty about how well the projection actually models the future. These concerns need to be addressed by devising a means to represent the level of confidence or surety of the projections so that policy makers and the public can understand the level of certainty associated with each projection.

Recommendation

Ecology should investigate the feasibility of the following suggested improvements in projection methodology:

(1) Generators' Own Projections

One basic idea is to obtain information from generators themselves about the known changes in the future volumes of waste. For example, information about planned expansions, anticipated regulatory impacts, process changes or waste reduction efforts would be useful in cross-checking the basic projection methodology. This recommendation may be most effectively conducted as a pilot project with the top fifty generators, in conjunction with the pilot project proposed in Recommendation 5.3.

(2) Future Non-recurrent Waste Volumes

The Hazardous Waste Program and the Toxics Cleanup Program should work together to design a practical, reliable and ongoing data collection method about potential waste volumes from cleanup sites. This method should be able to generally account for those sites which are most likely to have cleanup actions taken over the coming five years, have a way to gather this information from EPA-lead, state-lead and independent PLPs (Potentially Liable Persons) sites and should differentiate between sites where wastes will be managed on-site as opposed to off-site.

(3) Regulatory Change

. Washington should work with other states in the Western Governors' Association and with EPA to develop an accepted methodology for predicting regulatory change. An additional benefit of such coordination would be the enhanced consistency between Capacity Assurance Plans.

(4) Price Sensitivity

Developing an ability to model the effects of waste management cost changes would be a useful tool for two reasons: it would enable more accurate forecasts of future waste management capacity needs, and it could be used model possible consequences of applying the economic incentives or disincentives discussed in Recommendation 1.12.

Ecology should investigate options for modeling waste management cost changes in future needs assessments.

Implementation

The pilot project on generator's projections will be implemented in the 1994 - 1995 biennium, concurrently with Recommendation 5.3. As described in Recommendation 2.3, the Solid and Hazardous Waste Program will work with the Toxics Cleanup Program during the next two years to develop a better tracking system for cleanup wastes. EPA has developed a national work group to improve the methodologies used for predicting regulatory change, and Ecology staff will closely monitor the results of that effort and incorporate the most appropriate aspects. Accounting for price sensitivity will be extremely difficult to do. Efforts to develop such a model will likely occur either in conjunction with the development of a facility-specific needs assessment (Recommendation 2.4), or during the update of this State Hazardous Waste Plan in 1996.

Measuring Waste Reduction Progress and Potential

5.5 Waste Reduction Measurement

Problem Summary

One of the most widely recognized problems with the current hazardous waste information collection system is the lack of an accepted methodology to measure waste reduction progress. Without this methodology, there is no way to systematically gather this information at the company level. Without this information gathered over time, it is difficult to track how or if wastes are moving up the hierarchy and the resulting impact on capacity need, to measure progress in meeting goals, or to compare businesses and industries for, targeting outreach efforts.

In recognition of this problem, EPA has funded a pilot project, with Region 10 in the lead, to !, develop some workable methodologies. The goals of the project are to fully ascertain the state, federal and private needs for measurement of waste reduction, and to identify methods and options which meet those needs.

Currently, Washington collects information about the generation and management of hazardous wastes through annual reports from generators and TSDs. A very basic, inherent limitation in the reporting system that has become apparent during the planning process is that waste information is collected using the regulatory waste codes (e. g. DOOI , F005J. These cues were designed by EPA to solve the problem of how to track wastes; they aren't necessarily very conducive to measuring waste. The use of waste codes becomes a problem when information is needed about the chemical nature and concentration of the waste, for instance when attempting to measure cross-media transfer of pollutants. Also, waste codes are not very useful in measuring relationships between hazardous materials input, product outputs and the generation of wastes.

Recommendation

Ecology should continue to participate in the development and implementation of EPA's pilot project. In preparation for being able to fully utilize the results of this project, Ecology should begin an internal assessment process to identify the priority information needs for this agency and for the state as a whole. Tradeoffs between competing needs will need to be clearly understood.

It would be wise for Washington businesses to assist this project during the phase in which the methodologies will be tested for their practicality and usefulness. This will assure that the methodologies that are eventually implemented are consistent with the ways that Washington businesses themselves collect information.

Implementation

It is anticipated that the EPA pilot project will be completed during 1992 and Washington businesses have already indicated they are willing to participate. Based on its results, the Hazardous Waste Program, in consultation with the Waste Reduction, Recycling and Litter Control Program, intends to develop a form to begin measuring hazardous waste reduction on an ongoing basis.

5.6 Waste Reduction Progress Tracking and Projections

Problem Summary

With the passage of the Hazardous Waste Reduction Act, RCW 70.95C, in 1990, selected businesses in Washington will be expected to produce Pollution Prevention Plans over the next several years. The plans are legally confidential, but the Executive Summaries and

Annual Progress Reports are available for public inspection. The businesses will be expected to set numerical reduction goals and outline a strategy to meet these goals.

There are two measurement tasks that face Ecology as these Pollution Prevention Plans are developed. One is tracking the level of compliance with the planning requirement: who has submitted the appropriate planning documents, which ones are approved, etc. The second, more difficult task is in tracking the progress of businesses in achieving the waste reduction goals outlined in their Pollution Prevention Plans.

Recommendation

Ecology should develop a data collection system to track progress on development of Pollution Prevention Plans and planning documents, and the waste reduction goal information submitted in the Annual Progress Reports (see Recommendation 1.2). At the same time Ecology should investigate what information could be released through periodic reports to further the public's need to know what companies are reducing their wastes or hazardous substance usage.

After this pollution prevention planning data collection system is sufficiently reliable, it could be linked to the needs assessment model. This will enable the pollution prevention planning information to be directly applied to the future projections of waste demand.

Implementation

The Waste Reduction, Recycling and Litter Control Program intends to develop an information collection system for the Pollution Prevention Plans' annual progress reports during the next two years. Linkage of this system into the needs assessment model will be difficult; it will be at least five years before the planning information can be used for forecasting estimates.

Waste-Specific Research

5.7 Waste-Specific Research

Problem Summary

The Priority Waste Management Study, conducted in 1985, was Washington's first intensive look at the wastes generated in Washington and how they should be managed. The Do the Right Thing Study, conducted in 1991, took an even more intensive look at certain high priority wastes. In both cases, resource limitations required that tradeoffs be made in the exhaustiveness of the research.

Recommendation

The existing body of waste-specific research should be expanded by conducting an evaluation of the effect of disposal costs on waste generation. This would enable a more accurate model of the impact of changing price structures on waste generation volumes, and highlight the economic barriers to moving up the hierarchy.

Implementation

Ecology's ability to conduct this research will be highly dependent on funding availability. Because research is not one of Ecology's primary functions, other funding needs, such as hazardous waste education, regulation development and enforcement, must come first. The next major update of the State Plan in 1997 is the most likely time when funding for this research may be available.

Tracking the Progress of the State Hazardous Waste Plan

5.8 Tracking the Progress of the State Hazardous Waste Plan

Problem Summary

The State Plan contains ,fifty-nine separate recommendations for action, marry of which involve new initiatives with responsibilities for Ecology, EPA, the Legislature, local government and Washington industries. There is concern that this plan might share the fate of other such ambitious plans: to sit on the shelf as new personnel and new priorities override the valid original recommendations. An implementation strategy for the State Plan is being developed, but there needs to be a way to keep tabs on implementation progress.

Furthermore, the validity of the recommendations themselves in terms of their effectiveness in solving the stated problems needs to be monitored. This is particularly pertinent for the pilot projects and new initiatives referenced under Chapters 3, 5 and 6.

Recommendation

Ecology should examine each of the recommendations and develop an evaluation system. In every two-year update of the State Plan, Ecology should review the progress made on all recommendations, and provide a written update to the State Solid Waste Advisory Committee, the Legislature and the public on the course of implementation and preliminary conclusions.

Implementation

This recommendation will be implemented as written.

CHAPTER 6

EDUCATING OUR CITIZENS, GENERATORS, TSDs AND OTHERS ABOUT HAZARDOUS WASTE

Education Strategy

6.1 Overall Hazardous Waste Education Strategy

Problem Summary

Ecology's traditional emphasis on its role as a regulator rather than an educator has caused some generators to be afraid to contact Ecology. Education tasks have been addressed as needed, and this lack of a proactive strategy has tended to result in inconsistency and duplication of effort and has also led to misconceptions about hazardous waste within the media and the general public.

Recommendation

The goal of Ecology's education efforts should be to increase generators' awareness of their responsibilities and requirements in the management of hazardous wastes. Ecology should strengthen its educational role. Education efforts by Ecology should target specific audiences within the regulated community to ensure that the appropriate information reaches the intended generators.

Implementation

The Waste Reduction, Recycling and Litter Control Program will be expending considerable staff resources over the next six years to provide technical assistance to generators about reduction and recycling options for waste management, including targeting specific audiences. Additionally, the Solid and Hazardous Waste Program is also increasing its education efforts for generators (see Recommendation 6.2, below).

6.2 Hazardous Waste Program Focus

Problem Summary

Ecology's educational focus *has been unclear, contributing to confusion about educational responsibilities especially when other governmental and non-governmental organizations are also providing hazardous waste education.*

Recommendation

One goal of the Department of Ecology should be to enhance regulatory compliance through education. Ecology should be the lead in providing education to the regulated community which local government and non-governmental organizations should support, but not duplicate. Ecology should also create a clearinghouse of information about hazardous waste management.

Implementation

The Hazardous Waste Program is committed to an increased emphasis on compliance education over the next six years, both in terms of staff time and resources. In particular, a single industry focus will be used on a trial basis for the next several years. The automotive industry has been selected as the first one for special attention, and during 1992 special fact sheets, inspections and workshops will all be designed to meet that industry's needs.

The Hazardous Waste Program's role as an information clearinghouse will continue to focus on regulatory interpretation information, with renewed emphasis on enhancing the public's ability to access these interpretations.

6.3 Hazardous Waste Education in Schools

Problem Summary

The most effective long-term strategy for education is to train the next generation of citizens about the importance of hazardous waste reduction and management in an accessible and meaningful way.

Recommendation

Ecology should support the education of students in grades K-12 by encouraging the use of curriculum guides. Ecology staff should be made available as guest speakers for school and college environmental classes.

Implementation

A number of very valuable curriculum guides, such as "A-way with Waste" and "SLEUTH" have already been developed, and Ecology will continue to support their use by teachers and students. Ecology staff will respond to speaking requests on an ad hoc basis.

Education Through Moderate Risk Waste Planning

6.4 Overall Moderate Risk Waste Education Strategy

Problem Summary

The implementation of moderate risk waste plans by local governments will result in an increased level of involvement between those agencies and small quantity generators of hazardous waste. The roles and responsibilities for local agencies and the state will need to be clearly defined to prevent confusing or duplicative information from resulting from the combined education efforts of local ,governments and the state in the moderate risk waste planning process.

Recommendation

Local government should be the lead in providing small quantity generator and household hazardous waste information. The state and non-governmental organizations should support, but not duplicate these efforts. Local government agencies should be responsible for education and technical assistance including on-site audits for small quantity. generators. General public education efforts by local government should focus on the goal of increasing public awareness of the influence each individual has on the environment through consumer choices.

Implementation

Counties and cities have developed moderate risk waste plans, and **all are** scheduled to be approved by May 1992. Each plan has an education component, with varying emphasis on household hazardous waste and small quantity generator waste. Many counties are planning on conducting site audits.

6.5 Moderate Risk Waste Plan Implementation Funding

Problem Summary

Funding at the local level for the implementation of moderate risk waste plans is less than adequate to effectively reach and change the behavior of such a large audience. To continue the education and collection programs outlined in the moderate risk waste plans local governments will need more funding than is currently provided by the Model Toxics Control Account.

Recommendation

The Legislature's Recycling Funding Task Force should include in its assessment of funding needs the cost to implement the moderate risk waste plans. Depending on their

recommendation, local governments and Ecology may want to work together to increase the current first-use tax on hazardous substances, in order to supplement local government funding.

Implementation

Ecology will contact the Recycling Funding Task Force to inform them about this recommendation.

Training

6.6 Waste Reduction Training in Higher Education

Problem Summary

There is currently a lack of advanced training on waste reduction techniques for engineers and other scientists, who could later apply this knowledge within industry and government.

Recommendation

In cooperation with industry, Ecology should work to establish new training programs or make existing programs in waste reduction technology and engineering at community colleges and universities widely known. Existing or new training programs in higher education curricula or continuing education programs could also be certified by Ecology to raise the level of interest and participation in the field of waste reduction engineering.

Implementation

The Waste Reduction, Recycling and Litter Control Program has initiated some innovative new programs to integrate waste reduction into curricula at universities and community colleges, including specialized training. Certifying programs will require considerable staff time and will be implemented as budget constraints allow.

GLOSSARY

AGO -- Attorney General's Office. The AGO is legal counsel to state agencies.

ANNUAL REPORTS -- Submitted to Ecology by generators and waste management facilities, annual reports are yearly summaries of hazardous waste activities. These annual reports provide the information Ecology relies on for tracking hazardous waste generation and management capacity.

CAPACITY -- The management capacity at hazardous waste management facilities.

CERCLA -- Comprehensive Environmental Response, Compensation and Liability Act. Federal law governing the cleanup of contaminated sites, often called Superfund.

CPN -- Citizen/Proponent Negotiations. A procedure developed by the Department of Ecology and authorized by state law, RCW 70.105, to specify conflict resolution activities for dangerous waste management facility proponents and the affected community. Grant funding is available to support local communities in CPN activities.

DANGEROUS WASTE -- Wastes designated by federal law or state law as hazardous or dangerous. In addition to federally listed hazardous wastes "dangerous waste" also includes Washington-only hazardous wastes -- those exhibiting criteria for toxicity, persistence or carcinogenicity.

DANGEROUS WASTE REGULATIONS -- State regulations (Chapter 173-303 WAC) that implement the state Hazardous Waste Management Act and parts of the federal Resource Conservation and Recovery Act.

DISPOSAL FACILITY -- A facility or part of a facility at which hazardous waste is intentionally placed into or on any land, and at which waste will remain after closure of the facility.

EXTREMELY HAZARDOUS WASTE -- Wastes designated by state regulations (WAC 173-303-070 through 103) as extremely hazardous. Generally, such wastes have higher concentrations of contaminants than do dangerous wastes.

GENERATOR -- Any person, by site, whose act or process produces hazardous waste or whose act first causes a hazardous waste to become subject to regulation.

HAZARDOUS WASTE -- For the purposes of the State Plan the term hazardous waste refers to all wastes designated by federal law or Washington State law as dangerous, hazardous or extremely hazardous. Federal law, 40 CFR Part 261, designates those wastes to be regulated as hazardous waste. State law, RCW 70.105, designates those wastes determined to be dangerous, hazardous or extremely hazardous.

HSWA -- Hazardous and Solid Waste Amendments of 1984 to RCRA, the federal hazardous waste management laws.

MANIFEST -- A shipping document completed by the generator that accompanies a shipment of hazardous waste from the point of generation to final destination.

MODERATE RISK WASTE -- Waste that exhibits any of the characteristics of hazardous waste but is conditionally exempt from regulation under the Dangerous Waste Regulations. These wastes include any household hazardous waste and wastes generated by businesses that are cumulatively less than 220 pounds/month or batch of Dangerous Waste or less than 2.2 pounds/month or batch of Extremely Hazardous Waste.

MTCA -- Model Toxics Control Act, the state of Washington's hazardous waste cleanup law passed in 1989.

NOTICE OF DEFICIENCY -- The Department of Ecology's formal response to a permit application for a treatment, storage or disposal facility which delineates why the application is deficient. The Notice of Deficiency is not an acceptance or rejection of the application. It is a notification that the application is not acceptable as is and additional or more detailed information is required.

OFF-SITE -- Generally refers to the management of wastes at a facility removed from the site of generation of those wastes. Off-site or "commercial" facilities accept many types of waste from many different generators.

ON-SITE -- Generally refers to the management of wastes at the site of generation. On-site facilities manage only those wastes produced .by that generator at that site.

RCRA -- The Resource Conservation and Recovery Act of 1976. The federal law governing the management of hazardous waste. Authorized by EPA, Ecology implements RCRA in the state of Washington.

PACIFIC NORTHWEST REGION -- Alaska, Idaho, Oregon and Washington.

SMALL QUANTITY GENERATORS (SQGs) -- Businesses or institutions that generate or accumulate less than 220 pounds of dangerous waste per month or batch and less than 2.2 pounds of extremely hazardous waste per month or batch. Small quantity generators are not required to submit annual reports to Ecology and are exempt from the Dangerous Waste Regulations if the waste is treated or disposed of in a manner consistent with WAC 173-303-070(8)(b).

SWAC -- Solid Waste Advisory Committee.

TCLP -- Toxicity Characteristic Leaching Procedure. One of the four characteristics used in federal law to designate a waste as hazardous. TCLP is a laboratory procedure used to determine if a waste contains tonic constituents that could leach into and contaminate the groundwater. TCLP tests wastes for the level of concentration of 25 organic chemicals, eight metals, four pesticides and two herbicides.

TRANSPORTER -- A person or entity engaged in the off-site transportation of hazardous waste.

TSDs -- Treatment, storage and disposal facilities for the management of hazardous wastes.

UTC -- Utilities and Transportation Commission.

APPENDIX A

WHAT IS HAZARDOUS WASTE ?

Hazardous waste is a solid, liquid or gaseous material that could pose dangers to human health or the environment. The federal government lists over 400 substances that are regulated as hazardous wastes by the Resource Conservation and Recovery Act (RCRA). RCRA also designates wastes as hazardous if they exhibit any of the following characteristics:

(1) Ignitability -- can create fires under certain conditions.

(2) Corrosivity -- acidic or basic materials and those capable of corroding metal.

(3) Reactivity -- unstable under normal conditions and can create explosions or toxic fumes if mixed with water.

(4) TCLP Toxicity -- toxic constituents with the potential to leach into and contaminate groundwater, as determined by a laboratory procedure called the Toxicity Characteristic Leaching Procedure.

Additionally, Washington's law designates wastes as hazardous if they exhibit any of these characteristics:

(5) Carcinogenicity -- causes cancer in animals, or in some cases humans.

(6) Persistence -- contains halogenated hydrocarbons and/or polycyclic aromatic hydrocarbons which do not break down easily.

(7) Toxicity -- causes a certain percentage of aquatic or terrestrial organisms to die in laboratory tests.

The result of Washington's extra designation characteristics is that there are many wastes in Washington that are designated as hazardous that would not be hazardous under federal law or in many other states.

Hazardous waste does not include radioactive wastes, domestic sewage, irrigation waters, household hazardous wastes or hazardous wastes from Small Quantity Generators (SQGs). SQGs are those generators whose total accumulation is less than 220 pounds per month or batch for Dangerous Wastes (DW) or 2.2 pounds per month or batch for Extremely Hazardous Wastes (EHW). SQG waste is exempt from the Dangerous Waste

Regulations only if managed properly (see definition of Small Quantity Generators in the Glossary). Washington designates wastes as DW or EHW depending on content and concentration. The term hazardous waste includes DW and EHW.

Unless otherwise indicated in the State Hazardous Waste Plan "hazardous waste" means those wastes generated by regulated generators or those generators of over 220 pounds per month of DW or 2.2 pounds per month of EHW.

APPENDIX B

RESPONSE TO PUBLIC COMMENTS

As a final step in the development process for Washington State's first Hazardous Waste Plan, the Department of Ecology made available a public review draft of the State Plan. Over 400 copies of the Public Review Draft were distributed and 26 reviewers returned comments by the end of the 30-day comment period which closed on October 31, 1991.

Ecology chose to use this method of obtaining comments rather than holding a public hearing for two reasons: (1) the series of public workshops held in May 1991, allowed Ecology to obtain verbal input early in the drafting process for the Plan's recommendations and (2) written comments on the Public Review Draft enabled much more detailed and thorough review than could be gained through a public hearing.

Organization of Public Comments

Each recommendation in the Public Review Draft of the State Plan was followed by this graphic:

I support this recommendation Yes ☐ No ☐

This system was used not to determine if each individual recommendation would be approved or disapproved, but rather to get a sense of the public response to the concept behind the recommendations. This "voting" system also provided an easy mechanism through which comments could be expressed on a very wide range of technical issues without requiring the reviewer to go into great detail on each recommendation.

Public Comment Summary and Response by Individual Recommendation

Below is a synopsis of the written public reaction to each recommendation. Ecology's response and a description of any changes to the recommendation from the Public Review Draft of the State Plan follows each comment summary. Not all comments received are represented below.

A tally of votes of support or no support for each recommendation is included after the recommendation title. Also, at the end of Appendix B, immediately following the synopsis of written comments below, is a table summarizing the votes for all the recommendations.

In addition, each recommendation in the final State Plan includes an "Implementation" paragraph, describing how Ecology or others will implement that recommendation. Some of the comments received during public review of the draft plan are addressed in the Implementation narrative.

1.1 Changing Legislative Policy on Hazardous Waste Priorities (19 yes; 6 no)

- Energy recovery should be after treatment, not before on the hierarchy of hazardous waste management priorities.

Response: No changes made. See the Implementation discussion following the recommendation for further details.

1.2 Review of Pollution Prevention Plan Effectiveness (15 yes; 8 no)

- The law does not require approval of Pollution Prevention Plans.
- Mandatory reduction should be considered if voluntary reduction does not work.

Response: The recommendation was changed slightly to clarify that an evaluation would be conducted on the Executive Summaries and Annual Progress which are to be submitted to Ecology for approval under the Pollution Prevention Planning requirement.

1.3 Certifying Management According to Plan (12 yes; 10 no)

- The law says implementation of Pollution Prevention Plans is voluntary. - Certifications are often meaningless.

Response: No changes made. See the Implementation discussion following the recommendation for explanation.

1.4 Using the Do The Right Thing Study in Pollution Prevention Planning (17 yes; 4 no)

- Updating and expanding this study will be critical. - This study should be used as a reference, but not as a prescription for action in all situations.

Response: No changes made. See the Implementation discussion following the recommendation for further details.

1.5 Private Consumer Choice (14 yes; 10 no)

- Ecology should pursue legislative bans for products that harm the environment when less harmful alternatives are available.
- Informed choice is more accurate than indicated by this recommendation.
- Information should be provided to the consumer, not interest groups.

Response: No changes made. From the written responses to the Draft State Plan and discussions at public workshops, it is apparent that this is a controversial subject. There is not enough information currently available from private or public entities to make incontrovertible conclusions about overall environmental costs of consumer products. There are some private entities, such as Green Seal, who are attempting to mgt this information need. The issue of informed choice is indeed complicated, but by providing technical background available to any parties interested in promoting the issue, Ecology feels it is an important first step toward achieving the goal of informed consumer choice.

1.6 Recycled Content (19 yes; 6 no)

- Encourage, but don't legislate the procurement of recycled products.

Response: No changes made. Government agencies at all levels have and will continue to be directed to increase their procurement of recycled content products to serve as an example and to stimulate markets for recycled products.

1.7 Cross-Media Inspections (19 yes; 5 no)

- This will not achieve anything until laws are written to address cross-media concerns.

Response: No changes made. Ecology does not subscribe to the belief that more laws must be, written to address the concerns of cross-media transfer of pollutants. Because this recommendation calls for a pilot project to examine the efficiency and service of such inspections, any shortcomings of such an inspection system will be identified as the project is evaluated.

1.8 Cross-Media Ecology Task Force (21 yes; 2 no)

- No demonstrated need for this. Resources could be better spent on high priority projects.

Response: No changes made. Ecology believes that the cross-media movement of pollutants is a high priority.

1.9 Research Needs on Waste Management Alternatives (20 yes; 3 no)

- Look at research projects with an eye toward how they relate to other western states, not just Washington.

Response: No changes made. The Pacific Northwest Pollution Prevention Research Center will implement this recommendation with a regional focus.

1.10 Investigate Alternatives to Current Recycling Regulatory System (15 yes; 5 no)

- Relax reporting requirements for recyclers. - Need to clarify the ambiguous standards in use now.

Response: No changes made. The existing system is not without faults, but the intent of this recommendation is to address some of these concerns and ambiguities.

1.11 Technical Assistance (18 yes; 4 no)

- Ecology needs to be proactive and not just an enforcer. - Focus on the biggest sources of pollution.

Response: No changes made. With a greater emphasis on waste reduction and recycling training and information dissemination, Ecology is continuing to strive to be more than just an enforcement agency. The focus of waste reduction efforts is often on high volume wastes. Numerous smaller sources, where the waste reduction potential is high but on-site expertise is not available, will also provide appreciable results.

1.12 Economic Incentives and Disincentives (15 yes; 6 no)

- Don't create economic bribes and penalties. - Might result in the improper disposal of hazardous waste.

Response: No changes made. The recommendation is to merely investigate the feasibility of economic incentives and disincentives. If that investigation determines that such a strategy would not be appropriate, then it would not be implemented.

2.1 "Close to Home" Policy - Overall Approach (16 yes; 5 no)

- On-site management in thousands of locations is not superior to professional management at off-site locations.

Response: No changes made. The Close to Home Policy would promote on-site waste management where environmentally desirable, but would not mandate it at all generation sites.

2.2 Impact of State-Only Wastes (16 yes; 7 no)

- The decision to regulate a waste should be based on its toxicity and management practices - not capacity.

Response: No changes made. This recommendation is not intended to eliminate or even compromise the management of wastes based on toxicity. It is intended to acknowledge that the management of a waste as a hazardous waste may not always be the best environmental choice when other factors, such as the risks of transporting wastes, are taken into account. Designating a waste as hazardous has many repercussions that should be examined. Consideration should be given to the overall impacts of managing a newly designated waste on the available capacity to manage currently designated wastes. The benefit of managing a waste as hazardous may be outweighed by the utilization of capacity to manage existing wastes.

2.3 On-Site or Local Management (19 yes; 4 no)

- On-site management may be just as risky as off-site. How can you speed up the permitting process without sacrificing something?

Response: No changes made. The expedited permitting of on-site facilities would not occur at the expense of normal safeguards. The emphasis on on-site management where appropriate will address the concerns raised by off-site waste management: the increased risk of exposure through transportation of wastes off-site and the transfer of risk to other communities.

2.4 In-State Management - Sizing Based on Need (9 yes; 13 no)

- Difficult to predict a dynamic factor such as need.
- Such limitations may make it uneconomical to locate facilities in Washington.

Response: No changes made. This is clearly a controversial recommendation. Ecology and the SWAC Subcommittee advising Ecology, believe this is a good policy for several reasons. First, it is a reasonable mechanism for determining the state's need for management capacity and assessing the capability of the state to manage its own wastes. Second, for the reasons noted in the Response to Recommendation 2.3,

above, it is not the responsibility of any state to become a magnet for wastes from other states, thus limiting the size of facilities to in-state or in-region need is good policy. Third, the oversizing of disposal facilities may lead to decreased disposal costs and therefore, decreased waste reduction and recycling. Finally, this recommendation will require a legislative change and so it will be put before the Legislature for debate on its merits.

2.5 In-State Management - State Control of Facility Development (13 yes; 8 no)

- A change in the private market requirements is what is needed.

Response: No changes made. The inconsistencies in the Hazardous Waste Management Act that require the state to develop a site for the disposal of extremely hazardous waste and the private sector to provide all other hazardous waste management facilities and services needs to be resolved.

2.6 In-Region Management (17 yes; 4 no)

- Need to stop sending our waste out of state.

Response: No changes made. A regional approach to waste management is sometimes preferable to complete self-sufficiency for each state for certain types of waste management.

2.7 Interstate Equity of Waste Management (11 Yes; 11 no)

- A differential fee structure will result in an unfair burden on generators where in-state capacity does not exist.
- The recommendation should be modified to reflect the National Governors' Association position on selected bans of hazardous waste.

Response: The recommendation was changed in light of the recently passed resolution of the National Governors' Association (signed by Governor Gardner) that supports limited bans of hazardous waste shipments to prevent unwarranted exporting of hazardous wastes. The following sentences were added to the recommendation: In addition, there are some instances of unwarranted shipments of hazardous waste and in those circumstances the use of limited bans may be necessar5r The criteria to be used for imposition of selective bans must be carefully developed to ensure fairness and equity. Please see the Implementation discussion following this recommendation for further details.

3.1 Setting Priorities and Developing Long-Term Strategy (16 yes; 4 no)

- The Solid and Hazardous Waste Program should be revised so that the federal and state regulations are distinct.

Response: No changes made. Recommendation 3.12 addresses changing the state Dangerous Waste Regulations.

3.2 Compliance Resources (14 yes; 6 no)

- Should be able to do more than one site visit per day. Spend less time emphasizing documentation.

Response: No changes made. Documentation is an essential part of any enforcement program. Recommendation 3.5 proposes examining greater flexibility in the level of detail for inspections on a case-by-case basis.

3.3 Generator Contact Frequency (14 yes; 4 no)

- Fines won't help. Advisory inspections until all generators reach the same level of compliance would do the most good.

Response: No changes made. Statewide compliance with the regulations is an Ecology goal. Ecology believes that increased communication, technical assistance and enforcement contacts between Ecology and the state's generators and treatment, storage and disposal facilities is one of the vehicles to achieve that goal.

3.4 Pilot Project: Point System (15 yes; 5 no)

- Simplification is important. - Consistency in regulation interpretation is the problem. Need better training.

Response: No changes made. Training for Ecology inspectors is addressed in Recommendation 3.8.

3.5 Pilot Project: Flexibility in Inspection Content (15 yes; 3 no)

No significant comments.

Response: No changes made.

3.6 Pilot Project: Increased Generator Contact (10 yes; 5 no)

- Annual inspections are not needed.

- Have generators and TSDs submit annual compliance reports and if inspections show them to be out of compliance - fine them.

Response: No changes made. Ecology does not feel that annual inspections for all generators is necessary or feasible, but annual contact is. Annual compliance reports are one option that is being considered.

3.7 Staff Turnover (11 yes; 7 no)

- A study of turnover rates could be costly.
- Ask why they leave.

Response: No changes made. Cost limitations are acknowledged in the Implementation discussion following the recommendation.

3.8 Training (17 yes; 1 no) .

- Be more consistent with RCRA.

Response: No changes made. Although having the state regulations more similar to RCRA would help with training problems, it would not meet other goals of environmental protection.

3.9 Appropriate Levels of Oversight (13 yes; 4 no)

- Too simplistic.

Response: No changes made.

3.10 Revamp the Authorization Process (11 yes; 6 no)

- Leave it with EPA.
- What are the alternatives to self-certification?

Response: No changes made. Washington seeks full authorization to run the federal hazardous waste program because we believe we can provide better service, tailored to our industry's and public's need.

3.11 Federal Regulation Development Process (16 yes; 3 no)

- State regulations are a major cause of increased waste categories and volumes.

Response: No changes made.

3.12 Changing the State Dangerous Waste Regulations (17 yes; 2 no)

- State regulations need to be simplified and made more consistent with the federal regulations.

Appendix B

Response: No changes made. The regulation reform effort that is in process will address these concerns.

3.13 Measuring Compliance (14 yes; 4 no)

- Compliance doesn't reflect program effectiveness.

Response: No changes made. Compliance may not be a true reflection of program effectiveness, but as a goal of the program it can be considered one method of evaluating overall program effectiveness. It is also important from a basic human health and environmental protection standpoint. The level of compliance by non-notifiers could also be used in determining priorities for future resource allocations.

3.14 Assessment of Economic Benefit (13 yes; 6 no)

- It is very difficult to assess risk, how is Ecology going to assess benefit?

Response: No changes made. One means of assessing of economic benefit is based on the cost savings from improper waste management. Please see the Implementation discussion following this recommendation for further details.

3.15 Permit Staff Resources and Permit Fees (14 yes; 5 no)

- This is a positive step toward internalizing waste management costs. - Don't assess fees, define statewide practices.

Response: No changes made.

3.16 Simpler Permits for Simpler Facilities (22 yes; 0 no)

- No significant comments.

Response: No changes made.

3.17 Permit Application Guidance (20 yes; 1 no)

- Don't need this. A single permit for all regulations is what is needed.

Response: No changes made. Under Recommendation 1.8, the feasibility of cross-program permits will be explored.

3.18 Permit Modification Process (20 yes 2 no)

- No significant comments.

Response: No changes made.

3.19 Corrective Action (7 yes; 12 no)

- Get funding first, then authority for corrective action. - Don't draw funding away from other programs. - Ecology should integrate the Model Toxics Control Act (MTCA) requirements to avoid duplication.

Response: No changes made. Ecology agrees with the concerns expressed regarding funding for Corrective Action. Please see the discussion following this recommendation for details of its implementation.

3.20 Cleanup Authority (12 yes; 6 no)

- Funding for cleanup at federal sites would take away from funding of other state programs. - Application of the MTCA to federal facilities undergoing remedial action would be duplicative and confusing.

Response: The first sentence of the recommendation was changed for clarification as follows: Ecology is proposing to EPA that Washington be allowed to use the MTCA administrative process and cleanup standards ~~and authority~~ when cleaning up HSWA corrective action sites.

Funding for MTCA cleanups would come from the polluters) and would not jeopardize other state programs. If authority to use MTCA at federal facilities is granted by EPA, the question of how to handle remedial actions already under way would be addressed at that time.

3.21 Legal Services (12 yes; 6 no)

- Decentralizing legal resources will reduce productivity and consistency.

Response: No changes made. Ecology feels that the issue of consistency can be handled through attention to communication. The productivity of the Solid and Hazardous Waste Program would only improve with increased accessibility to legal assistance and the Attorney General's Office would not be impacted by the recommendation.

3.22 Environmental Laboratory Services (20 yes; 1 no)

- No significant comments.

Response: The following language change was made for clarification purposes: In the meantime, generators should preferentially use laboratories which are accredited for water matrix methods ~~analyses~~ which are analogous to the solid waste method ~~analyses~~.

3.23 Quality of Transporters (15 yes; 4 no)

- No increased regulation or liability unless a clear need is demonstrated.

Response: No changes made. If additional regulations are determined to be needed, there will be a public participation process. It is unclear at this time what the best solution will be.

4.1 Improvements to the Citizen/Proponent Negotiation Process (16 yes; 3 no)

- No significant comments.

Response: No changes made.

4.2 Timing of Permit Decisions (16 yes; 2 no)

- Speed up the review and streamline the paper work instead.

Response: No changes made. Improvements to the permitting process are proposed under Recommendations 3.16 - 3.18.

4.3 Monitoring Permit Conditions (15 yes; 3 no)

- Unclear as to what this means.

Response: No changes made. This recommendation proposes that any large commercial incinerator or landfill facility sited in Washington would undergo extensive on-site compliance monitoring to ensure quick response by Ecology in the event of a system failure.

5.1 Data Quality of Annual Reports (15 yes; 4 no)

- Simplify the system by having generators send in the waste manifests and Ecology could get the data it needs from those.

Response: No changes made.

5.2 Linking Waste Generation and Waste Management (14 yes; 6 no)

- Need more effort in waste management. Don't need more waste codes or tracking numbers.

Response: The recommendation was changed for clarification as follows: ~~Ecology should investigate using a controlled numbering system to enable the manifest to be better used as a waste tracking tool. Two~~ Three major new initiatives will make it much easier to link waste generation and waste management:

(1) Ecology should investigate using a controlled numbering system to enable the manifest to be better used as a waste tracking tool.

(The remainder of this recommendation is unchanged.)

In and of itself, tracking waste generation is not going to result in better waste management. However, without accurate tracking methods it is impossible to understand the waste management system as it is today or how it is changing. Without that knowledge, Ecology can not identify specific problems in need of immediate attention or areas in the system where basic changes (e. g. regulation amendments or technical assistance needs) will provide the greatest long-term benefit.

5.3 Tracking Changes Over Time (15 yes; 5 no)

- No significant comments.

Response: No changes made.

5.4 Future Projections of Waste Volumes and Types (11 yes; 8 no)

- Too speculative with little benefit.

Response: No changes made. Ecology feels that investigating the feasibility of these options to improve future waste generation projections is a worthwhile endeavor for several reasons. One, these projections are necessary to conduct needs assessments as discussed in Chapter 2. Two, virtually all states are attempting to model future generation projections to better understand and prepare for future generation trends. Finally, investigating these options does not require the use of significant staff resources.

5.5 Waste Reduction Measurement (14 yes; 5 no)

- No significant comments.

Response: The recommendation language was amended as follows for clarification: In preparation for being able to fully utilize the results of this project, Ecology should begin an internal assessment process to identify priority information needs for this agency and for the state as a whole.

5.6 Waste Reduction Progress Tracking and Projections (12 yes; 7 no)

- It is not appropriate to spend public movies on data collection that is of little environmental benefit.
- Pollution Prevention Planning encourages its own compliance due to cost savings.

Response: A clarification of the first sentence was made as follows: Ecology should develop a data collection system to track ~~both the compliance information~~ progress on development of Pollution Prevention Plans and planning documents, and the waste reduction goal information submitted in the Annual Progress Reports (see Recommendation 1.3).

Ecology does not feel that collecting and tracking data on pollution prevention is of little value or a waste of resources. The impacts of regulatory requirements, even voluntary Pollution Prevention Planning, is of benefit in determining what, if any, additional measures are needed to protect human health and the environment. The people of this state and the Legislature have clearly stated that pollution prevention is the top priority waste management alternative. Granted, Pollution Prevention Planning will result in voluntary compliance in some cases, but it may not always be the least expensive management option. It is Ecology's charge to see that pollution prevention is maximized before other options are considered.

5.7 Waste-Specific Research (13 yes; 6 no)

- You can't develop a model to keep pace with changing economic conditions.
- Don't need a study. Higher disposal costs will force more waste minimization or illegal dumping.

Response: No changes made. Modeling changing economic conditions is difficult, but a range of economic factors were used in the Do The Right Thing Study to represent various economic scenarios. By expanding our existing waste-specific research, we will only increase our understanding of how the entire waste management system works. With greater understanding comes more effective planning and more efficient implementation of waste management policy and regulations.

5.8 Tracking the Progress of the State Hazardous Waste Plan (18 yes; 2 no)

- Develop a more coordinated data base system with other states in the Pacific Northwest Region.

Response: No changes made. Better regional coordination in many areas is one of the goals that Ecology is working toward.

6.1 Overall Hazardous Waste Education Strategy (20 yes; 1 no)

- No significant comments.

Response: No changes made.

6.2 Hazardous Waste Program Focus (20 yes; 1 no)

- No significant comments.

Response: No changes made.

6.3 Hazardous Waste Education in Schools (17 yes; 4 no)

- Ecology is understaffed and should be helping generators. - More money should be spent giving businesses incentives to develop recycling programs for wastes that don't have any now.

Response: No changes made. Currently, the resources spent in supporting education at our schools is very limited, but Ecology feels that education is vital and has begun to put greater emphasis on education at all levels. Other recommendations in the State Plan indicate this through a greater focus on generator education.

6.4 Overall Moderate Risk Waste Education Strategy (16 yes; 2 no)

- Differing lead agencies for different areas of interest may be confusing to small businesses.

Response: No changes made. Ecology and local governments are working together to develop clear communication for those generators that fall into the "grey area. "

6.5 Moderate Risk Waste Plan Implementation Funding (9 yes; 10 no)

- This tax has failed to send my signal to the public regarding hazardous substances. - This is a discriminatory penalty.

Response: No changes made. An increase to the first-use tax on hazardous substances is only one option if the Recycling Funding Task Force determines that additional funding for local government implementation is needed.

6.6 Waste Reduction Training in Higher Education (20 yes; 2 no)

- This is better done by industry.

Response: The first sentence of the recommendation was amended for clarification as "follows: In cooperation with industry, Ecology should work to establish new training programs or make existing programs in waste reduction technology and engineering at community colleges and universities widely known.

The recommendation states that Ecology should work in cooperation with industry.

Numerical Summary of Responses

The chart on the following pages summarizes all the comments received by tallying the "votes" of support or no support for each recommendation in the Public Review Draft of the State Plan. Not all reviewers expressed an opinion regarding each recommendation.

For informational purposes only, commentors were categorized by Ecology into three groups according to affiliation: Generators, Public/Environmental Organization and Government. Where an affiliation was not discernable, commentors were categorized as Others.

State Hazardous Waste Plan
Summary of Public Review Comments

Recommend. #	1.1	1.2	13	1.4	1.5	1.6	1.7	1.8	1.9	1.10	1.11	1.12	2.1	2.2	23	2.4	2.5	2.6	2.7
GENERATORS *7 Commentors*	4/2	3/3	2/5	3/3	2/4	4/2	473	6/0	6/0	4/1	6/0	4/2	4/2	6/1	5/1	1/5	6/0	6!0	2/5
PUBLIC/ENV. *6 Commentors*	3/2	4/0	3/1	4/0	3/1	4/1	4/0	5/0	4/0	4/0	4/0	3/1	4/1	4/0	3/1	4/1	3/1	4/0	1/2
GOVERNMENT *9 Commentors*	8/1	7/1	5/2	6/1	7/2	9/0	7/1	7/0	7/1	4/2	5/2	5/1	3/2	3/4	6!2	3/3	3/3	5/1	6/1
OTHERS *5 Commentors*	4/1	1/4	2!2	4/0	2/3	2/3	4/1	3/2	3/2	3/2	3/2	3/2	5J0	3/2	5/0	1/4	1/4	2/3	2/3
TOTAL *27 Commentors*	19/6	15/8	12/10	17/4	14/10	19/6	19/5	21/2	20/3	15/5	18/4	15/6	16/5	16/7	19/4	9/13	1318	17/4	11/11

The numbers shown in each box represent the number of yes/no support votes for that recommendation from that category of commentors.

Note: This chart above does not represent the 11 letters received from individuals who all said essentially the same thing, "Don't change a thing in this consensus document!"

State Hazardous Waste Plan
Summary of Public Review Comments cont$_d$

Recommend. #	3.1	3.2	33	3.4	3.5	3.6	3.7	3.8	3.9	3.10	3.11	3.12	3.13	3.14	3.15	3.16	3.17	3.18	3.19	3.20
GENERATORS *7 Commentors*	5/1	2/4	3/2	5/2	5/1	2/3	3/3	6/0	4/1	4/1	5/1	6/0	5/1	2/4	2/4	7/0	6/0	7/0	Z/5	4/1
PUBLIC/ENV.- *6 Commentors*	3/0	3/0	3/0	2/1	2/1	2!0	2/0	2/0	3/0	1/2	3/0	3/0	2/0	2/0	3/0	3/0	3/0	2/1	2/0	2/0
GOVERNMENT *9 Commentors*	5/1	6/0	5/0	4/1	4/0	4/0	3/2	6/0	3/1	4/1	4/1	6/0	5/1	6/0	5/1	7/0	7/0	7/0	2/3	5/1
OTHERS *5 Commentors*	3/2	. 3/2	3/2	4/1	4/1	2/2	3/2	3/1	3/2	2/2	4/1	2/2	2/2	3/2	4/0	5/0	4/1	4/1	1/4	1/4
TOTAL *27 Commentors*	16/4	14/6	14/4	15/5	15/3	10/5	11/7	17/1	13/4	11/6	16/3	17/2	14/4	13/6	14/5	22/0	20/1	20/2	7/12	12/6

The numbers shown in each box represent the number of yes/no support votes for that recommendation from that category of commentors.

State Hazardous Waste Plan
Summary of Public Review Comments cont'd

Recommend. #	3.21	3.22	3.23	4.1	4.2	4.3	5.1	5.2	53	5.4	5.5	5.6	5.7	5.8	6.1	6.2	63	6.4	6.5	6.6
GENERATORS *7 Commentors*	3/2	6/0	4/2	6/0	6/0	5/1	2/2	3/3	3/3	3/3	2/3	2/4	4/2	5/1	6/0	6/0	3/3	6/0	1/5	6/1
PUBLIC/ENV. *6 Commentors*	2/0	3/0	3/0	3/0	2/0	3!0	3/0	3/0	3/0	2/1	3/0	3/0	3/0	2/0	3/0	3/0	3/0	2/0	1/1	3/0
GOVERNMENT *9 Commentors*	5/1	7/0	6/0	5/1	5/1	4/1	7/0	5/1	5/1	4/1	5/1	5/0	3/2	7/0	7/0	7/0	7/0	6/0	5/i	7/0
OTHERS *5 Commentors*	2/3	4/i	2/2	2/2	3/i	3/1	3/2	3/2	4/1	2/3	4/1	2/3	3/2	4/1	4/1	4/1	4/1	2/2	2/3	4/i
TOTAL *27 Commentors*	12/6	20/1	15/4	16/3	16/2	15/3	15/4	14/6	15/5	11/8	14/5	12/7	13/6	18/2	20/1	20/1	17/4	16/2	9/10	20/2

The numbers shown in each box represent the number of yes/no support votes for that recommendation from that category of commentors.